Low end control
Telemecanique
The essential guide

2006

a brand of Schneider Electric

Telemecanique

General contents

Automation 1
- Plug-in Relays
- Timers, Counters, Control Relay, Analog Interfaces
- Distributed Inputs/Outputs
- Zelio Logic Smart Relays
- Twido, Nano PLC

Power supplies 2
- DC Power supplies
- Transformers for control circuits

Interfaces and I/O 3
- Term blocks & Cable ends
- Interfaces and distributed Inputs/Outputs

AS-Interface cabling system 4
- The cabling system that meets your needs for industrial automation systems

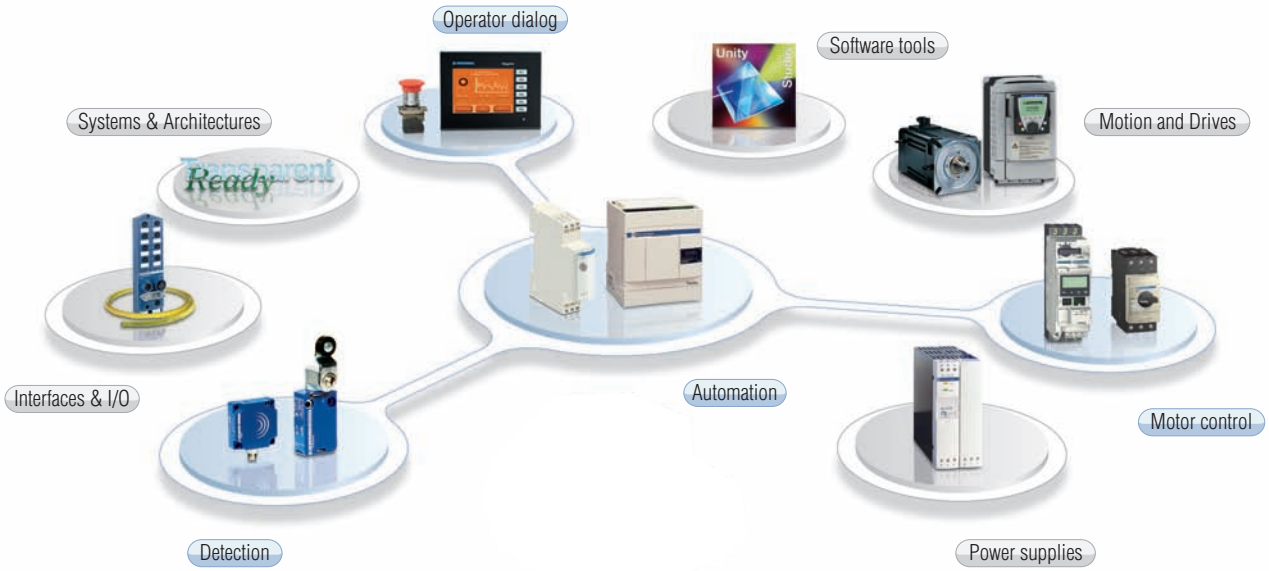
Introduction

Telemecanique,

- the Schneider Electric brand for Automation & Control.
- innovative products…

Telemecanique,
the Schneider Electric brand for Automation & Control

Used together or separatley, Telemecanique products can provide complete functionalities for all of your industrial, building, infrastructure, and energy automation applications.



Known for its quality and innovation for over 80 years, Telemecanique offers a wide range of products in over 130 countries around the world.

Te*Sys* motor starters
Altivar drives
Altistart soft starters
Lexium motors and servo-drives
Advantys distributed I/O
Zelio relays and **Twido** controllers
Modicon PLCs
Unity automation hardware and software solution (NEW !)
Magelis operator terminals
Harmony control and signalling units
Osiconcept sensors
Preventa safety solutions
etc.

Simply Smart !

Leveraging ingenuity and intelligence for ease of use

Simplicity

• Cost effective “optimum” offers that make selection easy for most typical applications
• Products that are easy to understand for users, electricians and automation specialists
• User-friendly intuitive programming,

…for example
Zelio Logic

Easy programming directly on the smart module with either the Compact or Modular versions, or via PC using FBDs or Ladder Logic. Control of applications by simply sending an SMS...

Ingenuity

• Auto-adapts to its environment, “plug & play”
• Application functions, control, communication and diagnostics embedded in the products
• User-friendly operation either directly on the product or remotely

…for example
Altivar 71

“Plug & drive” speed drive with functionality adapted specifically for pumps and fans, solutions with harmonics protection and Power*Suite* software for pocket PCs, perfectly suited for building applications!

Flexibility

• Interchangeable modular functions, to better meet the requirements for extensions
• Software and accessories common to multiple product families

…for example
Twido

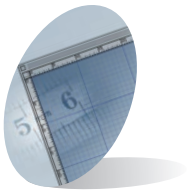
Programmable controller with “compact” or “modular” versions to better meet your needs. Its flexibility enables you to add options like a display, communication bus, more memory,….

Openness

• Compliance with field bus, connection, and software standards
• Enabling decentralised or remote surveillance via the web with Transparent Ready products

…for example
Te*Sys* U

The first starter controller to integrate motor power and control functions, adaptable to a variety of standard buses, and permits you to transparently monitor applications via the web.



Compactness

• High functionality in a minimum of space
• Freedom in implementation

…for example
Magelis XBT GT

Besides the fact that it is the most compact semi-graphic display on the market, it offers a high degree of legibility, configurable keys, and multi-language management capabilities.

Telemecanique,
innovative products for all Automation & Control functions.

Machine safety

See **Machine safety**
in each function

AS-Interface

See **AS-Interface**
in each function

Operator dialog

Systems & Architectures

Interfaces & I/O

Detection

Interfaces & I/O

Connectors
Cable-ends, terminal blocs

Interfaces
Plug-in relays, analog converters, discrete interfaces
Pre-wired interfaces, IP20/IP67 distributed I/O

AS-Interface
IP20/IP67 interfaces, cables, repeaters, accessories,adressing and adjustment terminals

Machine safety
Safety monitors and controllers on AS-Interface

Software
Software to design and install AS-Interface system, safety monitors and controllers on AS-Interface programming software

Detection

Sensors
Limit switches
Proximity sensors
Photo-electric and ultrasonic sensors
Pressure switches
Rotary encoders

RFID, vision
Inductive identification
Vision system

Machine safety
Switches, light curtains, mats

Software
Safety mats configuration software

Operator dialog

Control & signalling units
Control and signalling units, cam switches
Beacons and indicator banks

Human machine interfaces
Operator interface terminals, industrial PCs, Web servers, HMI and SCADA PC-based software

Control stations, mounting solutions
Control and pendant stations, front panels mounting kits

AS-Interface
Control stations, keypads, beacons

Machine safety
Emergency stops, control stations, enabling switches, foot switches

Software
Operator terminal software

Systems & Architectures

Connecting Ethernet devices

Web-enabling PLCs on Ethernet

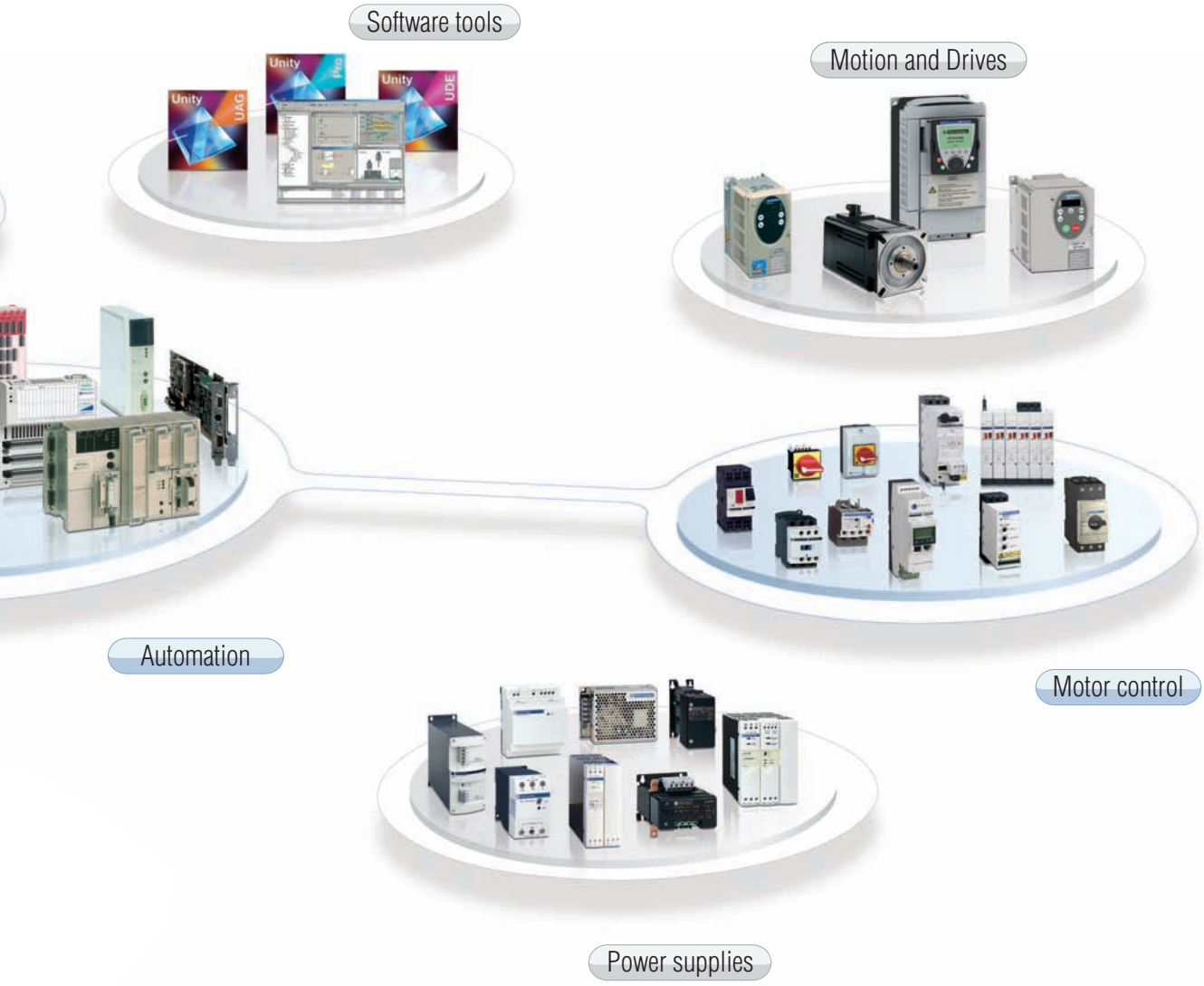
Application protocols and field buses

Mounting systems

Enclosures
Wall mounted enclosures
Floor standing enclosures, suite type cubicles
Industrial boxes

Equipment and accessories
Thermal control equipment
Power splitter blocks
Mounting accessories

Simply Smart !



Automation

Relays
Plug-in relays, electronic timers, control relays, counts
Smart relays

PLCs, PC based control, distributed I/O
Programmable controllers
PLC platforms
PC based control
Distributed I/O, I/O controllers

AS-Interface
Master modules for Modicon PLCs

Machine safety
Safety PLCs, controllers and modules

Software
PLCs and safety controllers programming software

Software tools

Global software
Generation of application systems
Application control
Collaborative development

Dedicated software
See **Software** in other functions

Power supplies

Power supplies
Switch mode power supplies
Filtered rectified power supplies, transformers

AS-Interface
Power supplies

Motion and Drives

Starters, drives and servo drives
Soft starters
Variable speed drives
Motion modules
Servo drives
Servo motors

Software
Software for drives and motors

Motor control

Motor starters
Contactors
Circuit breakers, fuse carriers
Thermal relays
Combinations, motor controllers

Mounting solutions
Motor starter mounting kit

AS-Interface
Motor controllers, enclosures, variable speed drives

Machine safety
Switch disconnectors, thermal-magnetic motor circuit breakers, enclosed starters

Software
Motor control programming software

Automation

Ingenious solutions for all your automation system applications

Perfect suitability for all your applications thanks to a complete offer... from simple relays to automation platforms.

Relays and Zelio Logic smart relays

Zelio

Zelio relay range
Zelio Relay plug-in relays, Zelio Control control and measurement relays, Zelio Count counters, Zelio Time timing relays: These ranges offer *compactness* and *simplicity*.

Zelio Logic smart relays
Designed for management of simple automation systems comprising 10 to 40 I/O. Compact or modular, Zelio Logic offers *flexibility* and *simplicity*.

Twido

Programmable controllers

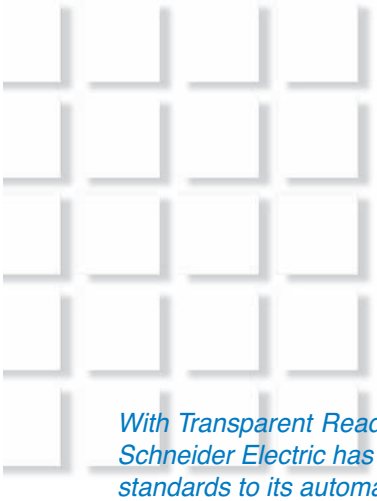
Twido, ideal for simple installations and small machines: standard applications comprising 10 to 100 I/O (max. 252 I/O). Compact or modular, Twido offers *flexibility* and *simplicity*.

The essential guide
A simplified selection guide enabling you to quickly select all the products required to develop an automation system... from a small simple machine to a complex installation.

Other versions: **please consult your Schneider Electric agency.**

Contents

- **Zelio Relay** - Plug-in relays *8-9*
- **Zelio Analog** - Analog interface *10-11*
- **Zelio Control** - Control and measurement relays *12*
- **Zelio Count** - Counters *13*
- **Zelio Time** - Timing relays *14-15*
- **Zelio Logic** - Smart relays *16-17*
- **Twido** - Nano PLC *18-19*



With Transparent Ready, Schneider Electric has applied market standards to its automation system architectures, making data exchange even easier. Smart and simple to use, the Telemecanique software offer ensures maximum efficiency in terms of application development and maintenance, while its high performance Telemecanique PLCs help to achieve optimum installation availability and productivity. Committed to maximising your investment over the long-term, Schneider Electric makes it easy for you to develop your applications with complete peace of mind.

Other versions: **please consult your Schneider Electric agency.**

Zelio Relay

Plug-in relays
Interface and miniature relays

Type of relay			Interface relays RSB			Miniature relays RXM			
Contact characteristics									
Thermal current Ith in A (temperature ≤ 55°C)			8	12	16	12	10	6	3
Number of contacts			2 "C/O"	1 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	4 "C/O"
Contact material			AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu
Switching voltage, min. / max.			5 / 250 VAC/DC			12 / 250 VAC/DC			
Switching capacity, min. / max. (mA / VA)			5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500
Coil characteristics									
Average consumption, inrush,			0.75 VA / 0.45 W			1.2 VA / 0.9 W			
Permissible voltage variation			0.8/0.85…1.1 Un (50 / 60Hz or =)			0.8…1.1 Un (50 / 60Hz or =)			
Catalogue numbers			(1)	(1)	(1)	(2)	(2)	(2)	
	Coil supply voltage	6 VDC	**RSB2A080RD**	**RSB1A120RD**	**RSB1A160RD**	–	–	–	–
	on DC	12 VDC	**RSB2A080JD**	**RSB1A120JD**	**RSB1A160JD**	**RXM2AB2JD**	**RXM3AB2JD**	**RXM4AB2JD**	**RXM4GB2JD**
		24 VDC	**RSB2A080BD**	**RSB1A120BD**	**RSB1A160BD**	**RXM2AB2BD**	**RXM3AB2BD**	**RXM4AB2BD**	**RXM4GB2BD**
		48 VDC	**RSB2A080ED**	**RSB1A120ED**	**RSB1A160ED**	**RXM2AB2ED**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
		60 VDC	**RSB2A080ND**	**RSB1A120ND**	**RSB1A160ND**	–	–	–	–
		110 VDC	**RSB2A080FD**	**RSB1A120FD**	**RSB1A160FD**	**RXM2AB2FD**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
	Coil supply voltage	24 VAC	**RSB2A080B7**	**RSB1A120B7**	**RSB1A160B7**	**RXM2AB2B7**	**RXM3AB2B7**	**RXM4AB2B7**	**RXM4GB2B7**
	on AC	48 VAC	**RSB2A080E7**	**RSB1A120E7**	**RSB1A160E7**	**RXM2AB2E7**	**RXM3AB2E7**	**RXM4AB2E7**	**RXM4GB2E7**
		120 VAC	**RSB2A080F7**	**RSB1A120F7**	**RSB1A160F7**	**RXM2AB2F7**	**RXM3AB2F7**	**RXM4AB2F7**	**RXM4GB2F7**
		220 VAC	**RSB2A080M7**	**RSB1A120M7**	**RSB1A160M7**	–	–	–	–
		230 VAC	**RSB2A080P7**	**RSB1A120P7**	**RSB1A160P7**	**RXM2AB2P7**	**RXM3AB2P7**	**RXM4AB2P7**	**RXM4GB2P7**
		240 VAC	**RSB2A080U7**	**RSB1A120U7**	**RSB1A160U7**	–	–	–	**RXM4GB2U7**

Sockets for relays

Type of socket		For interface relays RSB			For miniature relays RXM			
Mixed input/output type sockets with location for protection module								
		–	–	–	**RXZE2M114**(5)	–	**RXZE2M114**	**RXZE2M114**
		–	–	–	**RXZE2M114M**(5)	–	**RXZE2M114M**	**RXZE2M114M**
Separate input/output type sockets with location for protection module								
		RSZE1S48M	**RSZE1S35M**	**RSZE1S48M**(3)	**RXZE2S108M**	**RXZE2S111M**	**RXZE2S114M**	**RXZE2S114M**
Protection modules								
	Diode	6…230 VDC	**RZM040W**			**RXM040W**		
	RC circuit	24…60 VAC	**RZM041BN7**			**RXM041BN7**		
		110…240 VAC	**RZM041FU7**			**RXM041FU7**		
	Varistor	6…24 VDC or AC	**RZM021RB** (6)			**RXM021RB**		
		24…60 VDC or AC	**RZM021BN** (6)			**RXM021BN**		
		110…230 VDC or AC	**RZM021FP** (6)			**RXM021FP**		
		24 VDC or AC	–			–		
		240 VDC or AC	–			–		
	Multifunction timer module	24…230 VDC or AC	–			–		
Accessories								
Plastic maintaining clamp		**RSZR215**			**RXZR335**			
Metal maintaining clamp		–			**RXZ400**			
Label for socket		**RSZL300**			**RXZL420** (except RXZE2M114)			
Bus jumper	2 poles	–			**RXZS2**			
DIN rail adapter		–			**RXZE2DA**			
Panel mounting adapter		–			**RXZE2FA**			

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7**S**).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by **2**. (Example: RXM2AB**2**JD becomes RXM2AB**1**JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected

Universal and power relays

	Universal relays RUM					Power relays RPM				RPF	
	Cylindrics			Faston							
	10	10	3	10	10	15	15	15	15	30 (4)	30 (4) (7)
	2 “C/O”	3 “C/O”	3 “C/O”	2 “C/O”	3 “C/O”	1 “C/O”	2 “C/O”	3 “C/O”	4 “C/O”	2 “N/O”	2 “C/O”
	AgNi	AgNi	AgAu	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	$AgSnO_2$	$AgSnO_2$
	12 / 250 VAC/DC					12 / 250 VAC/DC				12 / 250 VAC/DC	
	10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500	100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200
	2…3 VA / 1.4 W					0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W	
	(2)	(2)	–	(2)	(2)	(2)	(2)	(2)	(2)	–	–
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2JD	**RUMC3AB2JD**	–	**RUMF2AB2JD**	**RUMF3AB2JD**	**RPM12JD**	**RPM22JD**	**RPM32JD**	**RPM42JD**	**RPF2AJD**	**RPF2BJD**
	RUMC2AB2BD	**RUMC3AB2BD**	**RUMC3GB2BD**	**RUMF2AB2BD**	**RUMF3AB2BD**	**RPM12BD**	**RPM22BD**	**RPM32BD**	**RPM42BD**	**RPF2ABD**	**RPF2BBD**
	RUMC2AB2ED	**RUMC3AB2ED**	**RUMC3GB2ED**	**RUMF2AB2ED**	**RUMF3AB2ED**	**RPM12ED**	**RPM22ED**	**RPM32ED**	**RPM42ED**	–	–
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2FD	**RUMC3AB2FD**	–	**RUMF2AB2FD**	**RUMF3AB2FD**	**RPM12FD**	**RPM22FD**	**RPM32FD**	**RPM42FD**	**RPF2AFD**	**RPF2BFD**
	RUMC2AB2B7	**RUMC3AB2B7**	**RUMC3GB2B7**	**RUMF2AB2B7**	**RUMF3AB2B7**	**RPM12B7**	**RPM22B7**	**RPM32B7**	**RPM42B7**	**RPF2AB7**	**RPF2BB7**
	RUMC2AB2E7	**RUMC3AB2E7**	**RUMC3GB2E7**	**RUMF2AB2E7**	**RUMF3AB2E7**	**RPM12E7**	**RPM22E7**	**RPM32E7**	**RPM42E7**	–	–
	RUMC2AB2F7	**RUMC3AB2F7**	**RUMC3GB2F7**	**RUMF2AB2F7**	**RUMF3AB2F7**	**RPM12F7**	**RPM22F7**	**RPM32F7**	**RPM42F7**	**RPF2AF7**	**RPF2BF7**
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2P7	**RUMC3AB2P7**	**RUMC3GB2P7**	**RUMF2AB2P7**	**RUMF3AB2P7**	**RPM12P7**	**RPM22P7**	**RPM32P7**	**RPM42P7**	**RPF2AP7**	**RPF2BP7**
	–	–	–	–	–	–	–	–	–	–	–

	For universal relays RUM					For power relays RPM				For power relays RPF
	RUZC2M	**RUZC3M**	**RUZC3M**	–	–	**RPZF1**	**RPZF2**	**RPZF3**	**RPZF4**	–
	–	–	–	–	–	–	–	–	–	–
	RUZSC2M	**RUZSC3M**	**RUZSC3M**	**RUZSF3M**	**RUZSF3M**	–	–	–	–	–
						1 and 2 poles		3 and 4 poles		
	RUW240BD					**RXM040W**		**RUW240BD**		–
	–					**RXM041BN7**		–		–
	RUW241P7					**RXM041FU7**		**RUW241P7**		–
	–					**RXM021RB**		–		–
	–					**RXM021BN**		–		–
	–					**RXM021FP**		–		–
	RUW242B7					**RUW242B7**		–		–
	RUW242P7					–		**RUW242P7**		–
	RUW101MW					–		**RUW101MW**		–
	–					–				–
	RUZC200					**RPZF1** (for 1 pole relays)				–
	RUZL420					–				–
	RUZS2					–				–
	–					**RPZ1DA**	**RXZE2DA**	**RPZ3DA**	**RPZ4DA**	–
	–					**RPZ1FA**	**RXZE2FA**	**RPZ3FA**	**RPZ4FA**	–

(4) 30A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED

(7) 30A for “NO”, 3A for “NC”

Other versions: **please consult your Schneider Electric agency.**

Analog Interface

Universal Thermocouple

Type	Thermocouple				
Temperature range	0…150 °C 32…302 °F	0…300 °C 32…572 °F	0…600 °C 32…1112 °F	0…600 °C 32…1112 °F	0…1200 °C 32…2192 °F
Output range	0…10 V / 0…20 mA - 4…20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
Catalogue numbers	**RMTJ40BD**	**RMTJ60BD**	**RMTJ80BD**	**RMTK80BD**	**RMTK90BD**

Universal PT 100

Type	PT 100				
Temperature range	-40…40 °C -40…104 °F	-100…100 °C -148…212 °F	0…100 °C 32…212 °F	0…250 °C 32…482 °F	0…500 °C 32…932 °F
Output range	0…10 V / 0…20 mA - 4…20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
Catalogue numbers	**RMPT10BD**	**RMPT20BD**	**RMPT30BD**	**RMPT50BD**	**RMPT70BD**

Optimum PT 100

Type	PT 100				
Temperature range	-40…40 °C -40…104 °F	-100…100 °C -148…212 °F	0…100 °C 32…212 °F	0…250 °C 32…482 °F	0…500 °C 32…932 °F
Output range	0…10 V				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
Catalogue numbers	**RMPT13BD**	**RMPT23BD**	**RMPT33BD**	**RMPT53BD**	**RMPT73BD**

Universal Analog Converter

Type	Analog Converter			
Input range	0…10 V or 4…20 mA	0…10 V / -10…+10 V 0…20 mA 4…20 mA	0…50 V / 0…300 V 0…500 V	0…1,5 A / 0…5 A 0…15 A
Output range	0…10 V or 4…20 mA	0…10 V / -10…+10 V 0…20 mA 4…20 mA Switchable	0…10 V 0…20 mA 4…20 mA Switchable	0…10 V or 0…20 mA ou 4…20 mA
Dimensions H x W x D	80 x 22,5 x 80 mm			80 x 45 x 80 mm
Voltage	24 VDC - Non isolated	24 VDC - Isolated	24 VDC - Non isolated	24 VDC - Non isolated
Catalogue numbers	**RMCN22BD**	**RMCL55BD**	**RMCV60BD**	**RMCA61BD**

Other versions: **please consult your Schneider Electric agency.**

Control relays for 3-phase supplies

Function	Rotational direction and presence of phases						+ Asymmetry + undervoltage
		+ Undervoltage	+ Over and undervoltage		+ Asymmetry		
Adjustable time delay	without	without	0.1…10 s	0.1…10 s	fixed, 0.5 s	0.1…10 s	without
Supply voltage	220…440V	380…440V	400V	380…440V	380…440V	380…440V	600 V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O	2 C/O
Catalogue numbers	**RM4TG20**	**RM4TU02**	**RM4TR34** (1)	**RM4TR32** (2)	**RM4TA02**	**RM4TA32**	**8430MPDV32** (3)

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

(3) Part of our Square D line of control relays for 3 phase supplies

Current and voltage measurement relays

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	VAC, 50/60 Hz	VDC
24…240 V	MW	MW
110…130 V	F	–
220…240 V	M	–
380…415 V	Q	–

Function	Detection of over and undercurrent		over and undercurrent			
Measuring range	3…30 mA 10…100 mA 0.1…1 A	0.3…1.5 A 1…5 A 3…15 A	0.05 …0.5 V 0.3 …3 V 0.5…5 V	1…10 V 5…50 V 10…100 V	30…300 V 50…500 V	180…270 V
Adjustable time delay	0.05…30 s	0.05…30 s	0.05 …30 s	0.05…30 s	0.05…30 s	0.1…10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
Catalogue numbers	**RM4JA31..** (4)	**RM4JA32..** (4)	**RM4UA31..** (4)	**RM4UA32..** (4)	**RM4UA33..** (4)	**RM4UB35**

Liquid level control relays

(5) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	
	VAC, 50/60 Hz	VAC, 50/60 Hz	VDC
24 V	B	B	–
24…240 V	–	MW	MW
110…130 V	F	F	–
220…240 V	M	M	–
380…415 V	Q	Q	–

Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
Catalogue numbers	**RM4LG01.** (5)	**RM4LA32..** (5)

Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
Catalogue numbers	**LA9RM201**	**RM79696043**

Zelio Count Counters

Totalisers

Display	Mechanical				LCD
Supply voltage	24 VDC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Front panel	Without	Front panel	Without	Front panel (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
Certification	UL cUR	–	UL cUR, CSA	cUR	–
Type of input	Contact	Contact	Contact	Contact	Volt free contact or transistor
Front face protection	IP40	IP65	IP40	IP40	IP54
Catalogue numbers	**XBKT50000U10M**	**XBKT60000U00M**	**XBKT60000U10M**	**XBKT80000U00M**	**XBKT81030U33E**

(1) With electrical interlocking.

Totalisers

Display	Mechanical		LCD			
Supply voltage	115 V	115 V	Battery			
Number of digits displayed	5	6	8	6	6	8
Counting frequency	10	10	40 Hz	14 Hz or 100 Hz	14 Hz	40 Hz/7kHz
Type of input	Contact	Contact	Voltage	Contact/Solid state	Voltage	Slow input-volt free contact or NPN translator. Fast input-voltage
Type of zero reset	Front panel	Front panel	Front panel (2) External voltage	Front Panel for Partial counter/Front panel or external contact for total reset		Front Panel (3) External contact
Front face dimensions W x H	41.5 x 31		48 x 24 mm			
Front face protection	IP40	IP40	IP56	IP56	IP66	IP66
Certification	UL, cUR	UL, cUR	cULus, CSA	cULus, CSA	cULus, CSA	cULus, CSA
Catalogue numbers	**XBKT5000U11M**	**XBKT6000U11M**	**RC87610050**	**RC87610240**	**RC87610250**	**RC87810340**

(2) Reset can be inhibited by switch setting on the unit. (3) External contact required to enable reset.

Hour counters

Display	LCD	LCD	LCD
Supply voltage	Battery	Battery	Battery
Number of digits / display	6	6	8 (999,999.99 h)/(Mode: 1/100 hour)
Type of input	Volt free contact	Voltage	Transistor
Type of zero reset	Front Panel (3)/External contact	Front Panel (2)/External contact	Front Panel (1)
Front face dimensions, W x H	48 x 24 mm	48 x 24 mm	48 x 24 mm
Front face protection	IP64	IP68	IP54
Certification	cULus, CSA	cULus, CSA	–
Catalogue numbers	**RC87610440**	**RC87610150**	**XBKH8100 0033E**

(1) With electrical interlocking. (2) Reset can be inhibited by switch setting on the unit. (3) External contact required to enable reset.

Multifunction counters

Display			LCD		LED	
Number of digits displayed			6			
Counting frequency			5 kHz			
Type of reset			Manual, electric and automatic			
Front face dimensions, W x H			48 x 48 mm			
Preselection number			1	2	1	2
Certification			UL cUR	UL cUR	UL cUR	UL cUR
Front face protector			IP65	IP65	IP65	IP65
Catalogue numbers	Supply voltage	24 VDC	**XBKP61130G30E**	**XBKP61230G30E**	**XBKP62130G30E**	**XBKP62230G30E**
		115 VAC	**XBKP61130G31E**	**XBKP61230G31E**	–	–
		230 VAC	**XBKP61130G32E**	**XBKP61230G32E**	**XBKP62130G32E**	**XBKP62230G32E**

Other versions: **please consult your Schneider Electric agency.**

Timing relays
Modular timers

Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–		–
Supply voltage	24 VDC - 24 ...240 VAC	24 VDC - 24 ...240 VAC		12 ... 240VAC/DC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…10 h	0.1 s…100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
Catalogue numbers	**RE11RAMU**	**RE11RMMU** (1)	**RE11RMEMU** (2)	**RE11RMMW** (1)

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.

width 17.5 mm, relay output External control	flashing –	energisation –	 –	 –
Supply voltage	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
Catalogue numbers	**RE11RLMU**	**RE11RHMU**	**RE11RCMU**	**RE11RBMU**

Type of modular timer	On-delay	Off-delay	Multifunction (3)
width 17.5 mm, solid-state output			
Supply voltage	24…240 VAC/DC	24…240 VAC	24…240 VAC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h
Output	solid-state	solid-state	solid-state
Catalogue numbers	**RE11LAMW**	**RE11LCBM**	**RE11LMBM**

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

Panel-mounted relays	Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply	24…240 VAC/DC			
Time range	0,02 s…300 h			
Output	2 relay 5 A			
Catalogue numbers	**RE48ATM12MW**	**RE48ACV12MW**	**RE48AMH13MW** (6)	**RE48AML12MW**

(4) Timer on-delay / pulse on energization

(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher

(6) 1 selectable in instantaneous

Industrial timers

Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
External control	no	yes	no	yes	yes
Supply voltage	24 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24...240 VAC/DC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s…300 h
Output	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
Catalogue numbers	**RE7TL11BU**	**RE7TP13BU**	**RE7RB11MW**	**RE7RL13BU**	**RE7RM11BU**

(1) 1 selectable in instantaneous mode.

Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
External control	yes	no	–	–
Supply voltage	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 110…240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s…300 h	0.05 s…300 h
Output	1 C/O	1 C/O	1 C/O	2 C/O (4)
Catalogue numbers	**RE7CV11BU**	**RE7PE11BU**	**RE7ML11BU**	**RE7MY13BU**

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

Miniature plug-in relays, relay output

Functions			
Timing ranges	7 switchable ranges	0.1 s…1 s - 1 s…10 s - 0.1 min…1 min - 1 min…10 min - 0.1 h…1 h - 1 h…10 h - 10 h…100 h	
Relay output		4 timed C/O contacts	2 timed C/O contacts
Rated current		AC 3 A	AC 5 A
Voltages	24 VDC	**RE XL4TMBD**	**RE XL2TMBD**
	24 VAC 50/60 Hz	**RE XL4TMB7**	**RE XL2TMB7**
	120 VAC 50/60 Hz	**RE XL4TMF7**	**RE XL2TMF7**
	230 VAC 50/6 0 Hz	**RE XL4TMP7**	**RE XL2TMP7**

Smart relays
Compact, SR2

Compact smart relays		With display, d.c. power supply					
Supply voltage		**12 VDC**		**24 VDC**			
Number of inputs/outputs		**12**	**20**	**10**	**12**	**20**	**20**
Number of inputs	Discrete inputs	8	12	6	8	12	12
	including 0-10 V analogue inputs	4	6	-	4	2	6
Number of outputs		**4** relay	**8** relay	**4** relay	**4**	**8** relay	**8**
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock		yes	yes	no	yes	no	yes
Catalogue numbers		**SR2B121JD**	**SR2B201JD**	**SR2A101BD** (1)	**SR2B12●BD** (2)	**SR2A201BD** (1)	**SR2B20●BD** (2)

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by the number **1** to order a smart relay with **relay output** or by **2** for a smart relay with **transistor output** (Example: SR2B121BD)

Compact smart relays		With display, a.c. power supply					
Supply voltage		**24 VAC**		**100…240 VAC**			
Number of inputs/outputs		12	20	10	12	20	20
Number of inputs	Discrete inputs	8	12	6	8	12	12
Number of outputs		**4** relay	**8** relay	**4** relay	**4** relay	**8** relay	**8** relay
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock		yes	yes	no	yes	no	yes
Catalogue numbers		**SR2B121B**	**SR2B201B**	**SR2A101FU** (1)	**SR2B121FU**	**SR2A201FU** (1)	**SR2B201FU**

(1) Programming on smart relay in LADDER language only

Compact smart relays		Without display and without buttons					
Supply voltage		**24 VDC**			**100…240 VAC**		
Number of discrete inputs/sorties		**10**	**12**	**20**	**10**	**12**	**20**
Number of inputs	Discrete inputs	6	8	12	6	8	12
	including 0-10 V analogue inputs	–	4	6	–	–	–
Number of outputs		**4** relay	**4** relay	**8** relay	**4** relay	**4** relay	**8** relay
Dimensions, W x D x H (mm)		71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock		no	yes	yes	no	yes	yes
Catalogue numbers		**SR2D101BD** (1)	**SR2E121BD** (3)	**SR2E201BD** (3)	**SR2D101FU** (1)	**SR2E121FU**	**SR2E201FU**

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a **24 VAC supply** (no analogue inputs), delete the letter **D** from the end of the reference (**SR2E121B** and **SR2E201B**)

Modular, SR3

New

Modular smart relays*		With display						
Supply voltage		**12 VDC**	**24 VDC**		**24 VAC**		**100…240 VAC**	
Number of inputs/outputs		**26**	**10**	**26**	**10**	**26**	**10**	**26**
Number of inputs	Discrete inputs	16	6	16	6	16	6	16
	including 0-10 V analogue inputs	6	4	6	–	–	–	–
Number of outputs		**10** relay	**4**	**10**	**4** relay	**10** relay	**4** relay	**10** relay
Dimensions, W x D x H (mm)		124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6
Clock		yes	yes	yes	yes	yes	yes	yes
Catalogue numbers		**SR3B261JD**	**SR3B10●BD** (1)	**SR3B26●BD** (1)	**SR3B101B**	**SR3B261B**	**SR3B101FU**	**SR3B261FU**

* The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module.

(1) Replace the ● by the number **1** to order a smart relay with **relay output** or by **2** for a smart relay with **transistor output** (Example: SR3B10**1**BD).

New

Extension modules for Zelio Logic SR3B●●●●● (2)		Communication	Discrete Inputs/Outputs			Analogue Inputs/Outputs
Application		**MODBUS** network	–			–
Number of inputs/outputs		–	**6**	**10**	**14**	**4**
Number of inputs	Discrete	–	**4**	**6**	**8**	–
	Analogue (0…10 V, 0…20 mA, PT100)	–	–	–	–	**2***
Number of outputs	Relay	–	**2** relay	**4** relay	**6** relay	–
	Analogue (0…10 V)	–	–	–	–	**2**
Dimensions, W x D x H (mm)		35.5x59.5x107.6	35.5x59.5x107.6	72x59.5x107.6	72x59.5x107.6	35.5x59.5x107.6
Catalogue numbers	12 VDC	–	**SR3XT61JD**	**SR3XT101JD**	**SR3XT141JD**	–
	24 VDC	**SR3MBU01BD**	**SR3XT61BD**	**SR3XT101BD**	**SR3XT141BD**	**SR3XT43BD**
	24 VAC	–	**SR3XT61B**	**SR3XT101B**	**SR3XT141B**	–
	100…240 VAC	–	**SR3XT61FU**	**SR3XT101FU**	**SR3XT141FU**	–

* max. 1 PT100 input

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays.

Zelio Soft software and memory for SR2/SR3

Zelio Soft software and memory	Multilingual programming software	Connecting cables		Back-up memory
Description	PC CD-ROM Windows 98, NT, 2000, XP, ME) (3)	PC Serial to Relay	PC USB to Relay	EEPROM
Catalogue numbers	**SR2SFT01**	**SR2CBL01**	**SR2USB01**	**SR2MEM02**

(3) CD-ROM including Zelio Soft software, an application library, a self-training manual, installation instructions and a user's manual.

New

Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
Supply voltage	12…24 VDC	12…24 VDC	12…24 VDC	–
Description	–	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
Dimensions, W x D x H (mm)	72x59.5x107.6	120.7x42x80.5	111x25.5x54.5	–
Catalogue numbers	**SR2COM01**	**SR2MOD01**	**SR2MOD02** (5)	**SR2SFT02**

(4) Must be used in conjunction with communication interface SR2COM01..

(5) Not recommended for North America or Japan.

Bases

Type of base		Compact			
Number of discrete I/O		10	16	24	40
Number of discrete inputs (24 VDC)		6 sink/source	9 sink/source	14 sink/source	24 sink/source
Number of discrete outputs		4 relay 2 A	7 relay 2 A	10 relay 2 A	14 relay 2 A, 2 N/C 1 A
Types of connection		Non-removable screw terminals			
Possible I/O extension modules		–	–	4	7
Counting		3 x 5 kHz, 1 x 20 kHz			4 x 5 kHz, 2 x 20 kHz
PWM position control		–	–	–	2 x 7 kHz
Serial ports		1 x RS 485	1 x RS 485; as an option: 1 x RS 232C or RS 485		
Protocol		Modbus Master/slave, ASCII, remote I/O			
Dimensions LxDxH		80x70x90 mm	80x70x90 mm	95x70x90 mm	157x70x90 mm
Catalogue numbers	**Supply voltage** 100…240 VAC	**TWDLCAA10DRF**	**TWDLCAA16DRF**	**TWDLCAA24DRF**	**TWDLCAA40DRF** (1)
	Supply voltage 19.2…30 VDC	**TWDLCDA10DRF**	**TWDLCDA16DRF**	**TWDLCDA24DRF**	**–**
	Real-time clock (as an option)	**TWDXCPRTC**			
	Display unit (as an option)	**TWDXCPODC**			

(1) Also available in 40 I/O version with Ethernet : TWDLCAA40DRF becomes TWDLCAE40DRF

Type of base		Modular		
Number of discrete I/O		20		40
Number of discrete inputs (24 VDC)		12 sink/source	12 sink/source	24 sink/source
Number of discrete outputs		8 source transistor 0.3 A	6 relay and 2 source transistor 0.3 A	16 source transistor 0.3 A
Types of connection		HE 10 connector	Removable screw terminals	HE 10 connector
Possible I/O extension modules		4	7	7
Supply voltage		24 VDC		
Integrated Counting		2 x 5 kHz, 2 x 20 kHz		
PLS/PWM position control		2x7 kHz		
Serial ports		1 x RS 485; as an option: 1 x RS 232C or RS485		
Protocol		Modbus Master/slave, ASCII, remote I/O		
Dimensions LxDxH		35.4x70x90 mm	47.5x70x90 mm	47.5x70x90 mm
Catalogue numbers		**TWDLMDA20DTK** (2)	**TWDLMDA20DRT**	**TWDLMDA40DTK** (2)
	Real-time clock (as an option)	**TWDXCPRTC**		
	Display unit (as an option)	**TWDXCPODM**		
	Memory extension (as an option)	**–**	**TWDXCPMFK64**	

(2) Also available in the following version: sink transistor outputs (TWDLMDA20D**U**K and TWDLMDA40D**U**K)

Accessories

Prewired system for modules with HE10 connectors		For modular bases TWDLMDA20DTK/40DTK	For inputs TWDDI16DK/32DK	For outputs TWDDO16TK/32TK
TwidoFast "preformed" cable	L = 3 m	**TWDFCW30M**	**TWDFCW30K**	**TWDFCW30K**
	L = 5 m	**TWDFCW50M**	**TWDFCW50K**	**TWDFCW50K**
Telefast sub-bases	L = 1 m	**TWDFST20DR10**	**TWDFST16D10**	**TWDFST16DR10**
	L = 2 m	**TWDFST20DR20**	**TWDFST16D20**	**TWDFST16DR20**

Memory cartridge and software	Memory cartridge	TwidoSoft software
Description	Application update	with cable
Catalogue numbers	**TWDXCPMFK32**	**TWDSPU1001V10M**

Other versions: **please consult your Schneider Electric agency.**

I/O modules

Type of module		Analog						
Number of I/O		2 inputs	4 inputs	8 inputs	1 output	2 outputs	2 inputs/1 output	
Connection		Removable screw terminals						
Inputs	Range	0…10 V (1) 4…20 mA (2)			–		0…10 V (1) 4…20 mA (2)	Type K, J, T thermocouples 3-wire Pt 100 thermal probe
	Resolution	12 bits (4096 points)			–		12 bits (4096 points)	
Outputs	Range	–			0…10 V 4…20 mA	± 10 V	0…10 V 4…20 mA	
	Resolution	–			12 bits	11 bits + sign	12 bits	
Measuring accuracy		0.2 % FS				–		
Supply voltage		24 VDC						
Dimensions LxDxH		23.5 x 70 x 90 mm						
Catalogue numbers		**TWDAMI2HT**	**TWDAMI4LT**	**TWDAMI8HT**	**TWDAMO1HT**	**TWDAVO2HT**	**TWDAMM3HT**	**TWDALM3LT**

(1) Non differential

(2) Differential

Type of module		Discrete					AS-Interface Master
Number of discrete I/O		8	4 inputs/4 outputs	16	16	32	2 modules (4)
Logical input		Sink	Sink/Source				–
Connections		Removable screw terminals			HE 10 connectors		Removable screw terminals
Catalogue numbers	Inputs 24 VDC	**TWDDDI8DT**	**TWDDMM8DRT**	**TWDDDI16DT**	**TWDDDI16DK**	**TWDDDI32DK**	–
	Inputs 120 V	**TWDDAI8DT**	–	–	–	–	–
	Relay outputs 2 A	**TWDDRA8RT**	**TWDDMM8DRT**	**TWDDRA16RT**	–	–	–
	Source transistor outputs 0.1 A	**TWDDDO8TT** (3)	–	–	**TWDDDO16TK** (3)	**TWDDDO32TK** (3)	**TWDNOI10M3**

(3) Also available in the following version: sink transistor outputs, (TWDDDO8**U**T, TWDDDO16**U**K and TWDDDO32**U**K)

(4) 2 modules max. 62 discrete slaves max. 7 analog slaves max. AS-Interface/M3, V 2.11 (S.7.4 profile not supported)

Communication modules

Type of module	CANopen Expansion	Serial interface module			Serial interface adaptor			Ethernet Interface
Physical layer (non isolated)	–	RS 232C	RS 485		RS 232C	RS 485		–
Connections	Screw terminals	Mini-DIN connector		Screw terminals	Mini-DIN connector		Screw terminals	RJ45
Protocol	–	Modbus Master/slave, ASCII, remote I/O						–
Compatibility with Twido base	Base 24 or 40 I/O	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via the integrated display module TWDXCPODM			All model
Catalogue numbers	**TWDNCO1M**	**TWDNOZ232D**	**TWDNOZ485D**(5)	**TWDNOZ485T**	**TWDNAC232D**	**TWDNAC485D**	**TWDNAC485T**	**499TWD01100**

(5) Screw terminals available : TWDN●Z485D becomes TWDN●Z485T

Power supplies

Power supplies to maximize uptime

Phaseo

Creator *of energy*

Regulated switch mode power supplies ABL1 / ABL7

Designed to supply the voltage required for control and power circuits of automation system equipment from 0.3 to 40 A.

With its dual upstream/downstream display for quick diagnostics, an output voltage that can be adjusted to compensate for voltage drops on the line, protection against overloads and short-circuits, the range of Phaseo power supplies is quite *simply* efficient.

Compact power supplies ABL7CEM

Modular power supplies ABL7RM

Universal power supplies ABL7RE/RP

AS-Interface dedicated power supplies ASiABL

Process power supplies ABL7U/REQ

Switch mode power supplies ABL1REM/RPM

The essential guide

A simplified selection guide enabling you to quickly select power supplies.

Contents

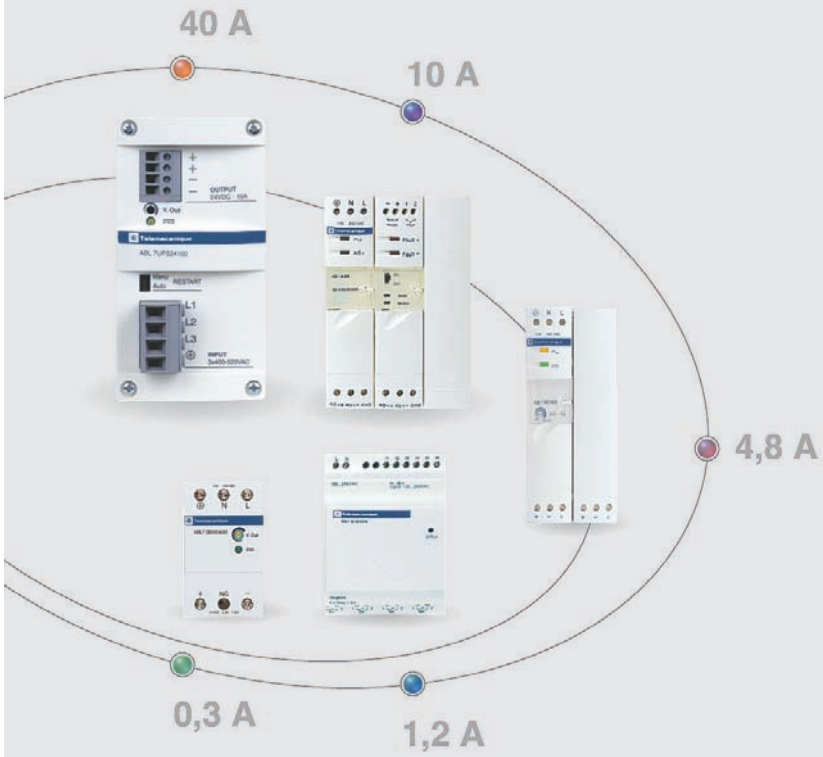
- Power supplies for control circuits
  Phaseo ABL7, ABL1 22-23
- Transformers for control circuits 24-25

> Switch mode power supplies Phaseo ABL1

- Power supplies for single-phase 110…230 V dedicated automation systems
- Regulated single-phase 12 and 24 V DC
- Wide offer: power 60 to 240 W
- Anti harmonic filter
- Certification: UL and CSA

> Switch mode power supplies Phaseo ABL7

- Compact, modular and universal power supplies for single-phase 100 - 240 V applications
- 2-phase/3-phase 380 - 520 V process power supplies
- Dual LED display
- Guaranteed output voltage
- Wide voltage range
- Book format
- Conformity to UL/CSA standards



Power supplies
For control circuits

Type of power supply		Compact, 1-phase regulated switch mode, wide range AUTO reset of automatic protection		
Input voltage		100…240 V AC, 110…220 V DC (compatible)		
Output voltage		24 V DC		
Nominal Power / Current		7 W / 0.3 A	15 W / 0.6 A	30 W / 1.2 A
Certifications		cULus, TÜV		
Conformity to standards	Safety	UL508, IEC/EN 60950		
	EMC	EN 50081-2, EN 50082-2		
Emission	Conducted and radiated	EN 55011, EN 55022 class A	EN 55011, EN 55022 class A	EN 55011, EN 55022 class B
Dimensions (WxDxH)		45 x 70 x 75 mm	45 x 95 x 75 mm	
Catalogue numbers		**ABL7CEM24003**	**ABL7CEM24006**	**ABL7CEM24012**

Type of power supply		Modular, 1-phase regulated switch mode AUTO reset of automatic protection		
Input voltage		100…240 V AC		
Output voltage		12 V DC	24 V DC	
Nominal Power / Current		22 W / 1.9 A	30 W / 1.3 A	60 W / 2.5 A
Certifications		UL, CSA, TÜV		
Conformity to standards	Safety	IEC/EN 60950, IEC/EN 61131-2/A11		
	EMC	EN 50081-2, IEC 61000-6-2 (EN 50082-2)		
Emission	Conducted and radiated	EN 55011, EN 55022 class B		
Dimensions (WxDxH)		72 x 70 x 110 mm		
Catalogue numbers		**ABL7RM1202**	**ABL7RM2401**	**ABL7RM24025**

Type of power supply		Universal, 1-phase regulated switch mode, wide range AUTO reset of automatic protection					
Input voltage		100…240 V AC, 110…230 V DC (version ABL7RP••)					
Output voltage		24 V DC					
Nominal Power / Current		48 W / 2 A	72 W / 3 A	120 W / 5 A		240 W / 10 A	
Certifications		UL, CSA, TÜV, Ctick					
Conformity to standards	Safety	IEC/EN 60950					
	EMC	EN 50081-2, IEC 61000-6-2 (EN 50082-2)					
	Low frequency harmonic currents	–		EN 61000-3-2		–	EN 61000-3-2
Emission	Conducted and radiated	EN 55011, EN 55022 class B					
Dimensions (WxDxH)		27 x 120 x 120 mm		54 x 120 x 120 mm		135 x 120 x 120 mm	
Catalogue numbers		**ABL7RE2402**	**ABL7RE2403**	**ABL7RE2405**	**ABL7RP2405**(1)	**ABL7RE2410**	**ABL7RP2410**(1)

(1) AUTO/MAN reset of automatic protection

Other versions: **please consult your Schneider Electric agency.**

For control circuits

Type of power supply		Industrial, 2-phase regulated switch mode AUTO/MAN reset of automatic protection	
Input voltage		2 x 380…415 V AC	
Output voltage		24 V DC	
Nominal Power / Current		120 W / 5 A	240 W / 10 A
Certifications		none	
Conformity to standards	Safety	IEC/EN 60950	
	EMC	EN 50081-1, EN 50082-2	
	Low frequency harmonic currents	–	
Emission	Conducted and radiated	EN 55011, EN 55022 class B	
Dimensions (WxDxH)		68 x 130 x 127 mm	68 x 154 x1 27 mm
Catalogue numbers		**ABL7REQ24050**	**ABL7REQ24100**

Type of power supply		Industrial, 3-phase regulated switch mode, wide range AUTO/MAN reset of automatic protection			
Input voltage		3 x 400…520 V AC			
Output voltage		24 V DC			
Nominal Power / Current		120 W / 5 A	240 W / 10 A	480 W / 20 A	960 W / 40 A
Certifications		cULus, c UL us			
Conformity to standards	Safety	IEC/EN 60950			
	EMC	EN 50081-1, EN 50082-2			
	Low frequency harmonic currents	–	EN 61000-3-2		
Emission	Conducted and radiated	EN 55011, EN 55022 class B			
Dimensions (WxDxH)		68 x 171 x 127 mm		84 x 240 x 209 mm	106 x 275 x 242 mm
Catalogue numbers		**ABL7UES24050**	**ABL7UPS24100**	**ABL7UPS24200**	**ABL7UPS24400**

Type of power supply		Industrial, regulated switch mode					
Input voltage		85 V…264 V AC				85 V…132 V AC / 170 V…264 V AC	
Output voltage		12 V DC		24 V DC		24 V DC	
Nominal Power / Current		60 W / 5 A	100 W / 8.3 A	60 W / 2.5 A	100 W / 4.2 A	150 W / 6.2 A	240 W / 10 A
Certifications		UL, c CSA us, CE, Ctick					
Conformity to standards	Safety	IEC/EN 60950-1, SELV					
	EMC	EN 55011/55022 clB, IEC/EN 61000-6-2/3, IEC/EN 61000--4-2, 43, 4, 5, 6, 8, 11, 12					
Dimensions (WxDxH)		150 x 38 x 98	200 x 38 x 98	150 x 38 x 98	200 x 38 x 98	200 x 50 x 98	200 x 65 x 98
References	Without filter	**ABL1REM12050**	**–**	**ABL1REM24025**	**ABL1REM24042**	**ABL1REM24062**	**ABL1REM24100**
	With filter (1)	–	**ABL1RPM12083**	**–**	**ABL1RPM24042**	**ABL1RPM24062**	**ABL1RPM24100**

(1) Anti harmonic IEC/EN 61000-3-2

Other versions: **please consult your Schneider Electric agency.**

9070 Industrial control transformers
for control circuits

Type	Control Circuit Transformers					
Rating UL/CSA	50VA	75VA	100VA	150VA	200VA	250VA
Rating CE	50VA	75VA	100VA	150VA	200VA	160VA
Inrush UL VA at 20% Power factor / at 40% Power factor						
95% of secondary voltage	193/151	271/210	339/266	666/529	588/459	1416/1057
90% of secondary voltage	266/215	396/318	499/404	893/731	815/659	1910/1494
85% of secondary voltage	339/282	520/430	659/549	1120/942	1041/866	2388/1936
Certification	"UL- E612939, CSA LR 37055, EN61558/01.89(TUV)"					
Catalogue Number						
Non fused	9070T50*	9070T75*	9070T100*	9070T150*	9070T200*	9070T250*
Fused (primary and secondary)	9070TF50*	9070TF75*	9070TF100*	9070TF150*	9070TF200*	9070TF250*

* complete the catalogue number by adding the voltage code from Table 1.

Table 1 – Voltage Codes

Primary Voltage	Secondary Voltage	Voltage Code	Accessory key
120	120	D24	I
120	12 / 24	D13	I
208	24	D14	I
208	120	D3	I
277	24	D25	I
277	120	D4	I
380	110	D6	I
415	110	D17	I
480	240	D12	I
480	277	D22	I
600	120	D5	I
600	12/24	D36	I
600	120/240	D37	I
120/240	24	D23	I
208/230/460	115	D20	II
208/240/277/380/480	24	D19	III
208/277	120	D51	I
208/277/380	95/115	D18	II
230/460/575	95/115	D32	II
240/480	24	D2	I
240/480	120	D1	I
240/480	120/240	D31	I
240/480	24/120	D15	I
380/400/415	12/24	D52	I
380/400/415	115/230	D33	I

300VA	350VA	500VA	750VA	1000VA	1500VA	2000VA	3000VA	5000VA
200VA	250VA	300VA	500VA	750VA	1000VA	1500VA	2000VA	3000VA
1634/1194	1894/1392	3197/2374	3770/2887	6587/4706	19,324/15,066	31,384/24,794	26,539/19,355	53,111/39,368
2184/1681	2592/2005	4104/3195	5515/4391	9079/6886	23,983/19,361	38,777/31,630	39,934/30,721	85,265/66,309
2709/2169	3261/2621	4981/4019	7231/5945	11,430/9051	28,607/23,756	46,161/38,667	52,713/42,216	1,162,77/93,882
					"UL- E61293, cUL E61239, EN61558/01.89(TUV)			
9070T300*	9070T350*	9070T500*	9070T750*	9070T1000*	9070T1500*	9070T2000*	9070T3000*	9070T5000*
9070TF300*	9070TF350*	9070TF500*	9070TF750*	9070TF1000*	9070TF1500*	9070TF2000*	-	-

Accessories		Accessory Key			Description
		I	II	III	
Finger safe covers					
	9070FSC-1	25-200VA	25-100VA	n/a	2 covers per kit
	9070FSC-2	250-5000VA	150-5000VA	n/a	
	9070FSC-23	n/a	n/a	25-5000	
Field Installable Fuse Options					
Primary Only					
	9070FB-2A	25-200VA	25-150VA	n/a	2 pole fuse block,
	9070FB-2B	250-2000	200-1500	25-1500	1-1/2inchx13/32inch midget fuse
Primary and secondary					
	9070FB-3A	25-200VA	25-150VA	n/a	3 pole fuse block,
	9070FB-3B	250-2000	200-1500	25-1500	1-1/2inchx13/32inch midget fuse
Secondary Only					
	9070FB-1A	25-200VA	25-150VA	n/a	1 pole fuse block,
	9070FB-1B	250-2000	200-1500	25-1500	1-1/2inchx13/32inch midget fuse
	9070SF25A	25-200VA	25-150VA	n/a	1 pole fuse block
	9070SF25B	250-2000	200-1500	25-1500	1-1/4inchx1/4inch fuse
	9070SF41A*(1)	25-200VA	25-150VA	n/a	secondary fuse clip,
	9070SF41B*(1)	n/a	200-2000	25-2000	1-1/2inchx13/32inch midget fuse
Fuse Pullers					
	9070FP1		All		used with fuse block, 1-1/2 inchx13/32 inch fuses

(1) cannot be installed on voltage codes D13,D15,D18,D31,D32,D33,D35,D36,D37,D39,D52,

Other versions: **please consult your Schneider Electric agency.**

Pre-wired system and distributed I/O solutions to help you put **everything together**

Advantys

IP20: *from the heart of the enclosure…*

Pre-wired system

Advantys Telefast ABE7

Simple, quick, reliable and *powerful* It enables quick connection of inputs/outputs to the operative parts. It eliminates unnecessary cabling by replacing the use of PLC terminals and conventional terminal blocks. It comprises a connection cable and 3 types of connection sub-base.

Distributed inputs/outputs

Advantys OTB

Open and *modular,* this optimised block solution enables the creation of separate groups of industrial I/Os, each positioned as near to the machine as possible, that are managed by a master controller (PLC, PC or variable speed drive) via a fieldbus or communication network.

Advantys STB

This *open* I/O modular system integration solution is an I/O platform that also provides a very modular wiring solution and a power supply management system.
Right from the start, you will appreciate its powerful and intelligent configuration software, its networking capabilities, its ease of setting-up and its wealth of parametering features.

IP67: *…to the heart of the machine, put them to the test…*

Pre-wired system

Passive splitter boxes Advantys ABE9

Compact, they eliminate the need for long and difficult cable runs.

- 4 or 8 channel version with M12 connections

Distributed inputs/outputs

Monobloc splitter boxes Advantys FTB

Modular splitter boxes Advantys FTM

They enable sensors and actuators to be connected in distributed automation systems using pre-assembled cables, thus reducing wiring time and costs whilst, at the same time, increasing the operational availability of the installation.

Simple, robust and *configurable*.

- Wide range of I/O combinations (16 I, 8 I 8 O, 12 I 4 O, 16 I/O configurable)

Powerful, compact and *modular*.

- Up to 256 discrete I/Os per bus module

Also see:
- **Advantys AS-Interface IP20 and IP67** cabling system *(Chapter 8 "AS-Interface cabling system")*

The essential guide
A simplified selection guide enabling you to quickly select all the products required for interfacing.

Contents

Connection

- Terminal blocks **AB1** *28*
- Cable ends **DZ5/AZ5** *29*
- Terminal blocks **NEMA** *30*

Interfaces and pre-wired system

- IP20 plug-in relays, **Zelio Relay**
  (see Chapter 1 "Automation")
- IP20 pre-wired system
  Advantys Telefast ABE7 ..... *31*
- IP20 connection interfaces for Twido
  Advantys Telefast ABE7 ..... *33*
- IP67 passive splitter boxes
  Advantys ABE9 ..... *34*

Distributed inputs/outputs

- IP20 distributed I/O, optimised block
  Advantys OTB *35*
- IP67 distributed I/O, optimised block
  Advantys FTB *36*
- IP20 distributed I/O, modular system
  Advantys STB ..... *37 to 40*
- IP67 distributed I/O, modular system
  Advantys FTM *41*

AS-Interface cabling system

- IP20 interfaces
  Advantys AS-Interface
  (see Chapter 4 "AS-Interface cabling system")
- IP67 interfaces
  Advantys AS-Interface
  (see Chapter 4 "AS-Interface cabling system")

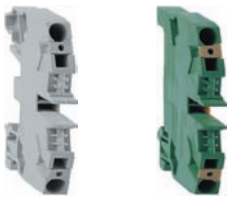
Terminal blocks

Insulation displacement technology

Clip-on mounting on 35 mm ⊐ rails		2-way terminal blocks (sold in lots of 100)	End covers (sold in lots of 10)	2-pole commoning link (1) (sold in lots of 10)
# 30-18 AWG	Terminal Block	**AB1AA135U2GR**	**AB1AAAC122GR**	**AB1RRAL22**
	Grounding terminal block	**AB1AATP135U2**	**AB1AAAC122VE**	**-**
# 18-14 AWG	Terminal Block	**AB1AA235U2GR**	**AB1AAAC122GR**	**AB1RRAL22**
	Grounding terminal block	**AB1AATP235U2**	**AB1AAAC122VE**	**-**

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1RAL22 becomes AB1RAL2**3**).

Spring clamp technology

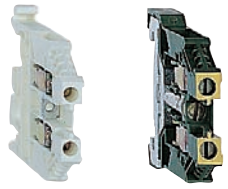


Clip-on mounting on 35 mm ⊐ rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 10)	2-pole commoning link (1) (sold in lots of 10)
# 22-12 AWG	Terminal Block	**AB1RR235U2GR**	**AB1RRAC242GR**	**AB1RRAL22** (1)
	Terminal Block	**AB1RRTP235U2**	**AB1RRTPAC242**	**–**
# 22-12 AWG	Terminal Block	**AB1RR435U2GR**	**AB1RRAC242GR**	**AB1RRAL42** (1)
	Terminal Block	**AB1RRTP435U2**	**AB1RRTPAC242**	**–**
# 24-8 AWG	Terminal Block	**AB1RR635U2GR**	**–**	**AB1RRAL62**
	Terminal Block	**AB1RRTP635U2**	**–**	**–**
# 24-6 AWG	Terminal Block	**AB1RR1035U2GR** (2)	**–**	**AB1RRAL102**
	Terminal Block	**AB1RRTP1035U2** (2)	**–**	**–**
# 24-4 AWG	Terminal Block	**AB1RR1635U2GR** (2)	**–**	**AB1RRAL162**
	Terminal Block	**AB1RRTP1635U2** (2)	**–**	**–**

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1RRAL22 becomes AB1RRAL2**3**).

(2) Sold in lots of 50.

Screw clamp technology



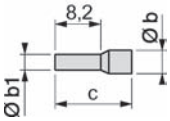
Clip-on mounting on 35 mm ⊐ rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 50)	2-pole commoning link (1) (sold in lots of 10)
# 22-12 AWG	Terminal Block	**AB1VV235U**	**AB1AC24**	**AB1ALN22** (1)
	Terminal Block	**–**	**–**	**–**
# 22-10 AWG	Terminal Block	**AB1VV435U**	**AB1AC24**	**AB1ALN42** (1)
	Terminal Block	**AB1TP435U**	**–**	**–**
# 22-8 AWG	Terminal Block	**AB1VV635U**	**AB1AC6**	**AB1ALN62** (1)
	Terminal Block	**AB1TP635U**	**–**	**–**
# 16-6 AWG	Terminal Block	**AB1VVN1035U** (2)	**AB1ACN10**	**AB1ALN102** (1)
	Terminal Block	**AB1TP1035U** (2)	**–**	**–**
# 12-4 AWG	Terminal Block	**AB1VVN1635U** (2)	**AB1ACN16**	**AB1ALN162** (1)
	Terminal Block	**AB1TP1635U** (2)	**–**	**–**

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1ALN22 becomes AB1ALN2**3**).

DZ5/AZ5 Insulated cable ends

Conforming to NFC 63-023 (1)

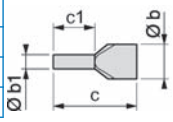
AWG	Øb	Øb1	c (in mm)
22	3	1.4	13
20	3.1	1.6	13
18	3.4	1.8	13.5
16	4	2.1	13.5
14	4.6	2.7	14.5



Type			Single cable ends (2) Sold in lots of 10 x 100		
Packaging			Individual or “strings” of bags	Dispenser pack	With marking flag
	#22 AWG	White	DZ5CE005	AZ5CE005	DZ5CA005
	#20 AWG	Blue	DZ5CE007	AZ5CE007	DZ5CA007
	#18 AWG	Red	DZ5CE010	AZ5CE010	DZ5CA010
	#16 AWG	Black	DZ5CE015	AZ5CE015	DZ5CA015
	#14 AWG	Grey	DZ5CE025	AZ5CE025	DZ5CA025

(2) UL-certified product. Not CSA-certified.

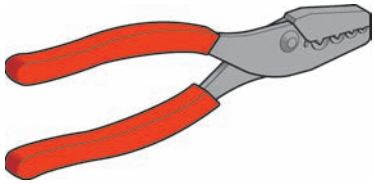
AWG	Øb	Øb1	c	c 1 (in mm)
20	2.8 x 5	1.8	15	8
18	3.4 x 5.4	2.05	15	8
16	3.6 x 6.6	2.3	15	8
14	4.2 x 7.8	2.9	18.5	10



Type			Double cable ends Sold in lots of 5 x 100
Packaging			Dispenser pack
	2 x 20 AWG	Blue	AZ5DE007
	2 x 18 AWG	Red	AZ5DE010
	2 x 16 AWG	Black	AZ5DE015
	2 x 14 AWG	Grey	AZ5DE025

(1) For insulated cable ends conforming to standard DIN 46228, please refer to your Schneider Electric agency.

Cabling accessories



Type	Pliers/cutters				
Functions	Stripping	Cutting/stripping	Crimping	Crimping	Crimping (ratchet)
AWG	28-12	20-12	22-6	8-2	24-10
Catalogue numbers	AT1PA7	AT2PE1	AT1PA2	AT2PA4	AT2PA5

Terminal blocks

Screw clamp technology

Mounting on 35mm 7 or Square D track	Terminal block (Sold in lots of 50)	End barrier (Sold in lots of 10)	2-pole jumper (Sold in lots of 10)
#22–10 AWG	9080GM6	9080GM6B	9080GH700 (3)
#22–8 AWG	9080GR6	9080GM6B	9080GH72
#22–10 AWG	9080GK6	9080GK6B (1)	9080GH72
#18–4 AWG	9080GC6	9080GC6B	9080GH74
#12 AWG–1/0	9080GD6 (2)	9080GD6B	9080GH76
#6 AWG–250 kcmil	9080GE6 (2)	–	–

(1) Sold in lots of 50.
(2) Sold in lots of 10.
(3) Sold in lots of 20.

Interfacing fuseholders

Fuse Type		Type M	Class CC	Class H	Class H	Class R	Class R
Maximum voltage rating		600	600	250	600	250	600
Maximum current rating		30	30	30	30	30	30
	1-pole	9080FB1611M	9080FB1611CC	9080FB1211	9080FB1611	9080FB1211R	9080FB1611R
	2-pole	9080FB2611M	9080FB2611CC	9080FB2211	9080FB2611	9080FB2211R	9080FB2611R
	3-pole	9080FB3611M	9080FB3611CC	9080FB3211	9080FB3611	9080FB3211R	9080FB3611R

Power Distribution Blocks

Splitter Blocks		Aluminum Lugs				Copper Lugs	
Main wire (Number of wires in)		(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–350 kcmil	(1) #6–600 kcmil	(1) #18–1/0 AWG	(1) #6–250 kcmil
Branch wire (Number of wires out)		(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–350 kcmil	(1) #6–600 kcmil	(1) #18–1/0 AWG	(1) #6–250 kcmil
Maximum voltage rating		600	600	600	600	600	600
Maximum current rating—Cu wire		115	175	310	420	150	255
	1-pole	9080LBA161101	9080LBA162101	9080LBA163101	9080LBA164101	9080LBC162101	9080LBC163101
	2-pole	–	9080LBA262101	9080LBA263101	–	–	–
	3-pole	9080LBA361101	9080LBA362101	9080LBA363101	9080LBA364101	9080LBC362101	9080LBC363101

Distribution Blocks		Aluminum Lugs					
Main wire (Number of wires in)		(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–400 kcmil	(1) #6–400 kcmil	(1) #6–400 kcmil	(1) #4–500 kcmil
Branch wire (Number of wires out)		(4) #18–10 AWG	(4) #14–4 AWG	(4) #14–2 AWG	(6) #14–2 AWG	(8) #14–2 AWG	(12) #14–2 AWG
Maximum voltage rating		600	600	600	600	600	600
Maximum current rating—Cu wire		115	175	335	335	335	380
	1-pole	9080LBA161104	9080LBA162104	9080LBA163104	9080LBA163106	9080LBA164108	9080LBA165112
	2-pole	9080LBA261104	9080LBA262104	9080LBA263104	9080LBA263106	9080LBA264108	9080LBA265112
	3-pole	9080LBA361104	9080LBA362104	9080LBA363104	9080LBA363106	9080LBA364108	9080LBA365112

Passive I/O sub-bases (Discrete)

Type of connection sub-base		Optimum			
Number of channels		16	16		
Max. current per channel		0.5 A	0.5 A		
Control voltage / output voltage		24 VDC / 24 VDC	24 VDC / 24 VDC		
LED per channel		–	With		
Number of terminals per channel/on row number		1/2	1/1	2/2	3/3
Dimensions (WxDxH)		55 x 59 x 67 mm	106 x 60 x 49 mm		
Catalogue numbers		–	**ABE7H16C11**	**ABE7H16C21**	**ABE7H16C31**
	Cable L = 1 m	**ABE7H20E100** (1)	–	–	–
	Cable L = 2 m	**ABE7H20E200** (1)	–	–	–
	Cable L = 3 m	**ABE7H20E300** (1)	–	–	–
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)			**ABFH20H100**		

(1) Connection cable supplied for PLCs.

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Type of connection sub-base	Universal					
Number of channels	16					
Max. current per channel	0.5 A					
Control voltage / output voltage	24 VDC / 24 VDC					
LED per channel	–	With	–	–	With	With
Number of terminals per channel/on row number	1/1	1/1	1/2	2/2	2/2	3/3
Dimensions (WxDxH)	125 x 58 x 70 mm		84 x 58 x 70 mm	125 x 58 x 70 mm		
Catalogue numbers	**ABE7H16R10**	**ABE7H16R11**	**ABE7H16R50**	**ABE7H16R20**	**ABE7H16R21**	**ABE7H16R31**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (2)						

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Type of connection sub-base			For counter and analogue channels	Passive distribution with shielding continuity	Distribution and supply of analogue channels
Number of channels			1 counter channel (3)	8	8
Max. current per channel			25 mA	25 mA	25 mA
Control voltage / output voltage			24 VDC / 24 VDC		
Number of terminals per channel			2	2 or 4	2 or 4
Dimensions (WxDxH)			143 x 58 x 70 mm	125 x 58 x 70 mm	125 x 58 x 70 mm
Catalogue numbers			**ABE7CPA01**	**ABE7CPA02**	**ABE7CPA03**
Connection cable recommended for Modicon PLCs (4)	TSX Micro	L = 2.5 m	**TSXCCPS15**	–	–
	Premium	L = 3 m	**TSXCAP030**		

(3) Or 8 inputs + 2 outputs, analogue .

(4) Connection cables available for other PLCs, please refer to your Schneider Electric agency.

Other versions: **please consult your Schneider Electric agency.**

Sockets with plug-in relays and terminals

Type of connection sub-base	With soldered solid-state relay inputs		With soldered solid-state relay outputs		With soldered electro-mechanical relay outputs	
Number of channels	16		16		16	
Max. current per channel	12 mA		0.5 A		2 A	5 A
Input voltage / output voltage	24 VDC / -	110 VAC / -	- / 24 VDC		- / 5…30 VDC, 250 VAC	
Number of contacts	–		–		1 N/O	
Polarity distribution	–		–		(1)	Volt-free
Number of terminals per channel	2					
Dimensions (WxDxH)	206 x 58 x 77 mm					
Catalogue numbers	**ABE7S16E2B1**	**ABE7S16E2F0**	**ABE7S16S2B0**(2)	**ABE7S16S1B2**	**ABE7R16S111**	**ABE7R16S210**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (3)						

(1) Contact common per group of 8 channels.

(2) With fault detection signal (can only be used with modules with protected outputs).

(3) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

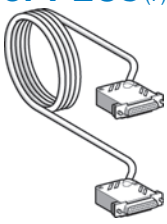
Type of connection sub-base	With plug-in electromechanical relays					
Number of channels	16					
Max. current per channel	5 A	2.5 A			4 A	5 A
Control voltage / output voltage	24 VDC / 5…24 VDC, 230 VAC					
Number of contacts	1 N/O			1 C/O		2 C/O
Polarity distribution	(4)	(5)	Volt-free			
Number of terminals per channel	2	2 or 3			2 to 6	
Dimensions (WxDxH)	110x54x89 mm	211 x 64 x 89 mm			272 x 74 x 89 mm	
Catalogue numbers	**ABE7R16T111**	**ABE7R16T212**	**ABE7R16T210**	**ABE7R16T230**	**ABE7R16T330**	**ABE7R16T370**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (6)						

(4) Contact common per group of 4 channels.

(5) Common on both poles.

(6) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Connection cables for PLCs (7)



Input/Output functions		Discrete	Analogue	Analogue and counter	Counter	Axis control
Catalogue numbers	Cable L = 1 m	**ABFH20H100**	–	–	–	–
	Cable L = 2 m	**ABFH20H200**	**ABFY25S200**	–	–	**TSXCXP213**
	Cable L = 2.5 m	–	–	**TSXCCPS15**	**TSXCCPH15**	–
	Cable L = 3 m	**ABFH20H300**	**TSXCAP030**	–	–	–
	Cable L = 6 m	–	–	–	–	**TSXCXP613**

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please refer to your Schneider Electric agency.

Sub-bases for Twido controllers

Type of connection sub-base	Discrete inputs/outputs		
			Solid-state and relay
Number of channels	20	20	20
Number of inputs	12 I (1 common for 12 channels)		
Number of outputs	8 O (1 common for 8 channels)	8 O, fuse protected (1 common for 8 channels)	2 O, solid-state 6 O, relay (1 common for 6 chnls.)
Voltage / current of inputs	24 VDC / 5…7 mA		
Voltage / current of outputs	24 VDC / 0.3 A		Solid-state: 24 VDC / 2 A Relay: 5…30 VDC, 250 VAC / 3 A
LED per channel	–	With	–
Number of terminals per channel/row number	2/2		
Dimensions (WxDxH)	130 x 62.5 x 83 mm		
Catalogue numbers	**ABE7B20MPN20**	**ABE7B20MPN22**	**ABE7B20MRM20**

Sub-base for input/output module

Type of connection sub-base	Discrete outputs			
				Relay
Number of channels	16	16	16	16
Type of outputs	16 I (1 common for 16 channels)	16 O (1 common for 16 channels)	16 O, fuse protected (1 common for 16 channels)	16 O (1 common for 4 channels)
Voltage / current of outputs	24 VDC / 5 mA	24 VDC / 0.1 A		Relay: 5…30 VDC, 250 VAC / 3 A
LED per channel	–		With	–
Number of terminals per channel/row number	2/2			
Dimensions (WxDxH)	106 x 60 x 49 mm		130 x 62.5 x 83 mm	
Catalogue numbers	**ABE7E16EPN20**	**ABE7E16SPN20**	**ABE7E16SPN22**	**ABE7E16SRM20**

Connection cables for Twido

Type of cable			For linking Twido and Telefast sub-base	
For use with			TWDLMDA20DTK/40DTK	TWDDI16DK/32DK/DDO16TK/32TK
Type of connectors			HE10, 26-pin, at either end	HE10, 20-pin, at either end
Catalogue numbers	Cable	L = 0.5 m	**ABFT26B050**	**ABFT20E050**
		L = 1 m	**ABFT26B100**	**ABFT20E100**
		L = 2 m	**ABFT26B200**	**ABFT20E200**

Accessories

Type of accessory	Optional clip-in terminals	
Number of linked terminals	20	12 + 8
Catalogue numbers	**ABE7BV20**	**ABE7BV20TB**

Other versions: **please consult your Schneider Electric agency.**

Advantys ABE9 Passive splitter boxes

IP67

Type of connection			To PLC using multicore cable	
Number of channels			4	8
Type of female connector			M12, 5-pin	M12, 5-pin
Max. number of signals			8	16
Max. current per channel			4 A	
Max. current per splitter box			16 A (1 mm²/#18 AWG)	
Product certification			cULus	
Dimensions (WxDxH)			50.2 x 42 x 92.2 mm	50.2 x 42 x 149.2 mm
Catalogue numbers	**Without LEDs**	Cable L = 5 m	**ABE9C1240L05**	**ABE9C1280L05**
		Cable L = 10 m	**ABE9C1240L10**	**ABE9C1280L10**
	With LEDs (1)	Cable L = 5 m	**ABE9C1241L05**	**ABE9C1281L05**
		Cable L = 10 m	**ABE9C1241L10**	**ABE9C1281L10**

(1) Green LED: power supply status, yellow LED: channel status.

Type of connection		To PLC using M23 connector	
Number of channels		4	8
Type of female connector		M12, 5-pin	M12, 5-pin
Max. number of signals		8	16
Max. current per channel		4 A	
Max. current per splitter box		16 A (1 mm²/#18 AWG)	
Product certification		cULus	
Dimensions, W X D x H		50.2 x 36.5 x 92.2 mm	50.2 x 36.5 x 149.2 mm
Catalogue numbers	Without LEDs	**ABE9C1240C23**	**ABE9C1280C23**
	With LEDs (1)	**ABE9C1241C23**	**ABE9C1281C23**

(1) Green LED: power supply status, yellow LED: channel status.

Accessories

Type of accessory		Splitter boxes w/o cable		Terminal connectors		Sealing plugs
		Without LEDs	With LEDs	Cable L = 5 m	Cable L = 10 m	(sold in lots of 10)
Catalogue numbers	4-channel	**ABE9C1240M**	**ABE9C1241M**	**ABE9XCA1405**	**ABE9XCA1410**	**–**
	8-channel	**ABE9C1280M**	**ABE9C1281M**	**ABE9XCA1805**	**ABE9XCA1810**	**–**
	for Ø12 connector	**–**	**–**	**–**	**–**	**FTXCM12B**

Advantys OTB IP 20 distributed I/O, optimised block

Interface modules

Discrete Type of bus		CANopen Machine bus	Ethernet TCP/IP network	Modbus Series network
Number of I/Os		20 I/O		
Number of inputs		12 inputs 24 VDC IEC type 1		
Number of outputs		6 relay outputs and 2 solid state 24 VDC outputs		
Connection method		Removable terminal block		
Number of I/O expansion modules (1)		7 discrete or analogue input/output modules, or connection accessories		
Maximum I/O configuration		With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analogue channels		
Supply voltage		24 VDC		
Counting	**5 kHz**	2 channels, 32 bits (0…4 294 967 295 points) dedicated discrete inputs -up counting/down counting with preset		
	20 kHz	2 channels, 32 bits (0…4 294 967 295 points) up/down counting, up counting, down counting, frequency meter		
Pulse generator, 7 kHz		2 PWM function channels (output with pulse width modulation) or PLS function (pulse generator output)		
Dimension (WxDxH)		55x70x90 mm		
Catalogue numbers		**OTB1C0DM9LP**	**OTB1E0DM9LP**	**OTB1S0DM9LP**

(1) for the references of discrete I/O and analogue expansion modules, refer to the Twido or Advantys OTB catalogue

Accessories

Type of accessory	Commoning modules	Documentation
Usage	For grouping input or output commons, max 8 A	User guides for hardware & software
Positioning	Inter-module	–
Catalogue numbers	**OTB9ZZ61JP**	**FTXES00**

Other versions: **please consult your Schneider Electric agency.**

Advantys FTB — IP67 distributed I/O, optimised block

Interface modules, plastic enclosure

Type of module		CANopen machine bus	DeviceNet Fieldbus	ProfiBus Fieldbus	InterBus Fieldbus
Number of channels		8			
Type of female connector		M12, 5-pin			
Max. voltage / current of inputs		24 VDC type 2 (conforms to IEC 1131-2)/200 mA			
Max. voltage / current of outputs		24 VDC/1.6 A			
Max. current per splitter box		8 A			
Product certification		cULus			
Dimensions, W X D x H		63 x 50.5 x 220 mm			63 x 69 x 220 mm
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply			
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault			
Catalogue numbers	16 inputs	**FTB1CN16EP0**	**FTB1DN16EP0**	**FTB1DP16EP0**	**FTB1IB16EP0**
	8 inputs/8 outputs	**FTB1CN08E08SP0**	**FTB1DN08E08SP0**	**FTB1DP08E08SP0**	**FTB1IB08E08SP0**
	12 inputs/4 outputs	**FTB1CN12E04SP0**	**FTB1DN12E04SP0**	**FTB1DP12E04SP0**	**FTB1IB12E04SP0**
	16 configurable inputs/outputs	**FTB1CN16CP0**	**FTB1DN16CP0**	**FTB1DP16CP0**	**FTB1IB16CP0**

Interface modules, metal enclosure

Type of module		CANopen	DeviceNet	ProfiBus
Number of channels		8		
Type of female connector		M12, 5-pin		
Max. voltage / current of inputs		24 VDC type 2 (conforms to IEC 1131-2)/200 mA		
Max. voltage / current of outputs		24 VDC/1.6 A		
Max. current per splitter box		8 A		
Product certification		cULus		
Dimensions (WxDxH)		62.7 x 38.9 x 224.7 mm		
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply		
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault		
Catalogue numbers	16 inputs	**FTB1CN16EM0**	**FTB1DN16EM0**	**FTB1DP16EM0**
	8 inputs/8 outputs/configurable outputs	**FTB1CN08E08CM0**	**FTB1DN08E08CM0**	**FTB1DP08E08CM0**
	16 configurable inputs/outputs	**FTB1CN16CM0**	**FTB1DN16CM0**	**FTB1DP16CM0**

Communication modules

Type of module NIM		Ethernet TCP/IP network
Binary speed		10 Mbps
Protocol		Modbus TCP/IP
Transparent Ready	Class	B20
	Embedded Web server	Standard services
	Ethernet services	SNMP agent, FDR client (replacement of faulty equipment), BOOTP (allocation of IP addresses by a server)
Max. number of addressable I/O modules		32 per island
Dimensions (WxDxH)		40x70x128,3 mm
Catalogue numbers	Standard	**STBNIP2212**

Type of module NIM		Machine bus CANopen	Fieldbus Fipio	Fieldbus InterBus	Fieldbus Profibus DP
Max. number of addressable I/O modules		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
Binary speed		10 K…1 Mbps	1 Mbps	0.5 Mbps	9.6 K…12 Mbps
Dimensions (WxDxH)		40x70x128,3 mm			
Catalogue numbers	Standard	**STBNCO2212**	**STBNFP2212**	**STBNIB2212**	**STBNDP2212**
	Basic	**STBNCO1010**	–	**STBNIB1010**	**STBNDP1010**

(1) On 7 segments max.

(2) 12 per island on 1 segment max for basic versions.

Type of module		Other networks Modbus Plus	Other networks DeviceNet	
Max. number of addressable I/O modules		32 per island	32 per island	12 per island
Speed		1 Mbps	125, 250 or 500 Kbps	125, 250 or 500 Kbps
Dimensions (WxDxH)		40x70x128,3 mm		
Catalogue numbers	Standard	**STBNMP2212**	**STBNDN2212**	–
	Basic	–	–	**STBNDN1010**

Connection accessories

Type of accessory		Removable terminals for 24 VDC power supply	Removable terminals for DeviceNet
Use		All communication modules	Network link DeviceNet module
Catalogue numbers	Screw terminals	**STBXTS1120** (1)	**STBXTS1111**
	Spring terminals	**STBXTS2120** (1)	**STBXTS2111**

(1) To be ordered separately, sold in lots of 10.

Connection accessories: See www.telemecanique.com

Power distribution modules (1)

Type of module			PDM				Auxiliary Power supply
Connection by removable terminals			Screw STBXTS1130 (2) Spring STBXTS2130 (2)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)
Supply voltage			24 VDC		115…230 VAC		24 VDC
Maximum current	Inputs		4 A at 30°C, 2.5 A at 60°C	–	5 A at 30°C, 2.5 A at 60°C	–	–
	Outputs		8 A at 30°C, 5 A at 60°C	–	10 A at 30°C, 2.5 A at 60°C	–	–
	Inputs/Outputs		–	4 A at 30°C, 2,5 A at 60°C	–	5 A at 30°C, 2,5 A at 60°C	–
	Logique interne 5 V		–	–	–	–	1,2 A
Sensor/actuator bus voltage range			19.2…30 VDC		85…265 VAC		–
Dimensions (WxDxH)			18.4x70x128.3 mm				
Catalogue numbers	Module	Standard	**STBPDT3100**	–	**STBPDT2100**	–	**STBCPS2111**
		Basic	–	**STBPDT3105**	–	**STBPDT2105**	
	Base		**STBXBA2200**		**STBXBA2200**		**STBXBA2100**

(1) Process power supplies see chapter 6 “Power supply”

(2) To be ordered separately, sold in lots of 10.

Bus extension modules for standard range

Type of module			“EOS” End of segment	“BOS” Beginning of segment	Extension for CANopen connection devices
Connection by removable terminals			– –	Screw STBXTS1120 (2) Spring STBXTS2120 (2)	Screw STBXTS1110 (3) Spring STBXTS2110 (3)
Use			For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment
Dimensions (WxDxH)			18.4x70x128.3 mm		
Catalogue numbers	Module	Standard	**STBXBE1000**	**STBXBE1200**	**STBXBE2100**
	Base		**STBXBA2400**	**STBXBA2300**	**STBXBA2000**

(2) To be ordered separately, sold in lots of 10.

(3) To be ordered separately, sold in lots of 20.

Software and memory card

Type	Advantys configuration software	Removable memory card
Use	Single station	–
Memory size	–	32 Kb
Reference	**STBSPU1000**	**STBXMP4440**

Connection accessories

Type of accessory	Island bus extension cable				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Catalogue numbers	**STBXCA1001**	**STBXCA1002**	**STBXCA1003**	**STBXCA1004**	**STBXCA1006**

Connection accessories: See www.telemecanique.com

Discrete modules

Type of module			Discrete inputs				
Connection by removable terminals (1)			Screw STBXTS1100 Spring STBXTS2100			Screw STBXTS1110 Spring STBXTS2110	
Number of channels			2	4	6	2	
Input voltage			24 VDC			115 VAC	230 VAC
Dimensions (WxDxH)			13.9x70x128.3 mm			18.4x70x128.3 mm	
Catalogue numbers	Module	Standard	**STBDDI3230**	**STBDDI3420**	**STBDDI3610**	**STBDAI5230**	**STBDAI7220**
		Basic	–	**STBDDI3425**	**STBDDI3615**	–	–
	Base		**STBXBA1000**			**STBXBA2000**	

(1) To be ordered separately, sold in lots of 20.

Type of module			Discrete solid state outputs					
Connection by removable terminals (1)			Screw STBXTS1100 Spring STBXTS2100					
Number of channels			2		4		6	
Output voltage			24 VDC		24 VDC		24 VDC	
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A
Dimensions (WxDxH)			13.9x70x128.3 mm					
Catalogue numbers	Module	Standard	**STBDDO3200**	**STBDDO3230**	–	**STBDDO3410**	–	**STBDDO3600**
		Basic	–	–	**STBDDO3415**	–	**STBDDO3605**	–
	Base		**STBXBA1000**					

(1) To be ordered separately, sold in lots of 20.

Type of module			Discrete outputs Triac	Relay	
Connection by removable terminals (1)			Screw STBXTS1110 Spring STBXTS2110		
Number of channels			2	2 NC/NO	2 NC+NO
Output voltage			115…230 VAC	24 VDC or 115…230 VAC	
Output current			2 A at 30°C, 1 A at 60°C	2 A per contact	7 A per contact
Dimensions (WxDxH)			18.4x70x128.3 mm		28.1x70x128.3 mm
Catalogue numbers	Module	Standard	**STBDAO8210**	**STBDRC3210**	**STBDRA3290**
	Base		**STBXBA2000**		**STBXBA3000**

(1) To be ordered separately, sold in lots of 20.

Connection accessories: See www.telemecanique.com

Analog modules

Type of module (3)			Analog inputs					
Connection by removable terminals			Screw STBXTS1100 (1) / Spring STBXTS2100 (1)					
Number of channels			2					
Input signal			- 10…+10 V		0…+10 V	0…20 mA	4…20 mA	Multi-range (2)
Resolution			11 bits + sign	9 bits + sign	10 bits	12 bits	10 bits	15 bits + sign
Dimensions (WxDxH)			13.9x70x128.3 mm					
Catalogue numbers	Module	Standard	**STBAVI1270**	–	–	**STBACI1230**	–	**STBART0200**
		Basic	–	**STBAVI1275**	**STBAVI1255**	–	**STBACI1225**	–
	Base		**STBXBA1000**					

(1) To be ordered separately, sold in lots of 20.

(2) Thermocouple B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.

Type of module (3)			Analog outputs				
Connection by removable terminals			Screw STBXTS1100 (1) / Spring STBXTS2100 (1)				
Number of channels			2				
Output signal			- 0…+10 V, - 10…+10 V	0…+10 V	-10 V…+10 V	0…20 mA	4…20 mA
Resolution			11 bits + sign or 12 bits	10 bits	9 bits + signe	12 bits	10 bits
Dimensions (WxDxH)			13.9x70x128.3 mm				
Catalogue numbers	Module	Standard	**STBAVO1250**	–	–	**STBACO1210**	–
		Basic	–	**STBAVO1255**	**STBAVO1265**	–	**STBACO1225**
	Base		**STBXBA1000**				

(1) To be ordered separately, sold in lots of 20.

Application-specific modules

Type of module (3)			For motor starters		Counter
			Tego Power	TeSys model U	(1)
Connection by connector			1 HE10 (30 contacts)	4 RJ45	Spring STBXTS2150 (2)
Number of inputs/outputs			16 E / 8 S	12 E / 8 S	4 E / 2 S
Input voltage			24 VDC		24 VDC
Output voltage/current			24 VDC/0.1 A per channel		24 VDC/0.5 A
Number of channels			8 non reversing motor starters	4 starters-controllers	1 counter channel 40 kHz
Dimensions (WxDxH)			18.4x70x128.3 mm	28.1x70x128.3 mm	
Catalogue numbers	Module	Standard	**STBEPI1145**	**STBEPI2145**	**STBEHC3020**
	Base		**STBXBA2000**	**STBXBA3000**	
	Connection cables		**STBXCA3002** (L= 1 m)	**490NTW00002** (L= 2 m)	–
			STBXCA3003 (L= 2 m)	**490NTW00005** (L= 5 m)	–

(1) For 2/3-wire PNP/NPN 24 VDC sensors, 24 VDC incremental encoders, mechanical contacts

(2) To be ordered separately

(3) Requited grounding kit (conseilled for counter<40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1,5…6 mm^2 terminals) + STBXSP3020 (5…11 mm^2 terminals)

Connection accessories: See www.telemecanique.com

Advantys FTM — IP67 distributed I/O, modular system

Interface modules

Type of bus module	CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus
Max. number of Discrete I/O	256		
Max. number of splitter boxes	16		
Bus module supply voltage	24 V DC		
Bus module max. supply current	9 A		
Product certification	UL/CSA	CULus	
Dimensions (WxDxH)	50 x 50.3 x 151 mm		
Catalogue numbers	**FTM1CN10**	**FTM1DN10**	**FTM1DP10**

Splitter boxes

Type of splitter box		Discrete inputs/outputs Compact		Expandable	
Input voltage		24 V DC/type 2/200 mA		24 V DC/type 2/200 mA	
Output voltage		24 V DC		24 V DC	
Type of output		Solid-state		Solid-state	
Output current		0.5 A		0.5 A	
Maximum supply current by internal bus		4 A		4 A	
Diagnostics		Short-circuit on I/O, wire breakage fault, sensor/actuator fault			
Dimensions (WxDxH)		30 x 34.5 x 126 mm		30 x 34.5 x 151 mm	
I/O connection		M8 connector	M12 connector	M8 connector	M12 connector
Catalogue numbers	8 inputs	**FTM1DE08C08**	**FTM1DE08C12**	**FTM1DE08C08E**	**FTM1DE08C12E**
	8 configurable inputs/outputs	**FTM1DD08C08**	**FTM1DD08C12**	**FTM1DD08C08E**	**FTM1DD08C12E**
	16 inputs	–	**FTM1DE16C12** (1)	–	**FTM1DE16C12E** (1)
	16 configurable inputs/outputs	–	**FTM1DD16C12** (1)	–	**FTM1DD16C12E** (1)

(1) Dimensions: 50 x 34.5 x 126 mm.

Type of splitter box		Analogue inputs/outputs Compact			
Type of inputs/outputs		Current		Voltage	
Measuring range		0…20 mA/4…20 mA		± 10 V DC/0…10 V DC	
Diagnostics		Short-circuit on I/O, wire breakage fault, sensor/actuator fault			
Conversion time		≤ 2 ms per channel			
Dimensions (WxDxH)		30 x 34.5 x 126 mm			
Resolution		16 bit	12 bit	15 bit + sign	11 bit + sign
Catalogue numbers	4 inputs	**FTM1AE04C12C**	–	**FTM1AE04C12T**	–
	4 outputs	–	**FTM1AS04C12C**	–	**FTM1AS04C12T**

Accessories for distributed I/O FTM

Internal bus connection cables

Type of cable			For linking bus module and splitter boxes
Type of connector			Elbowed M12, 6-pin, at either end
Catalogue numbers	Cable	L = 0.3 m	**FTXCB3203**
		L = 0.6 m	**FTXCB3206**
		L = 1 m	**FTXCB3210**
		L = 2 m	**FTXCB3220**
		L = 3 m	**FTXCB3230**
		L = 5 m	**FTXCB3250**

Auxiliary power supply connection cables

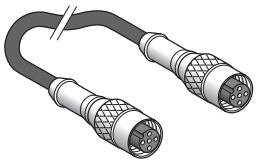
Type of cable			For connection of 24 V DC auxiliary power supply	
Type of connector			Elbowed M12, 6-pin, at either end	Elbowed M12, 6-pin, at one end (other end free)
Catalogue numbers	Cable	L = 0.3 m	**FTXCA3203**	**FTXCA3103**
		L = 0.6 m	**FTXCA3206**	**FTXCA3106**
		L = 1 m	**FTXCA3210**	**FTXCA3110**
		L = 2 m	**FTXCA3220**	**FTXCA3120**
		L = 3 m	**FTXCA3230**	**FTXCA3130**
		L = 5 m	**FTXCA3250**	**FTXCA3150**

Accessories

Type	Line terminator for end of internal bus
Type of connector	M12
Catalogue numbers	**FTXCBTL12**

Accessories for distributed I/O FTB/FTM

Bus connection cables



Type of bus			CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus	InterBus fieldbus
Type of female connector			M12, 5-pin, at either end			–
Connector coding			A encoded		B encoded	–
Catalogue numbers	Cable	L = 0.3 m	**FTXCN3203**		**FTXDP3203**	–
		L = 0.6 m	**FTXCN3206**		**FTXDP3206**	**FTXIB1206** (2)
		L = 1 m	**FTXCN3210**		**FTXDP3210**	**FTXIB1210** (2)
		L = 2 m	**FTXCN3220**		**FTXDP3220**	**FTXIB1220** (2)
		L = 3 m	**FTXCN3230**		**FTXDP3230**	–
		L = 5 m	**FTXCN3250**		**FTXDP3250**	**FTXIB1250** (2)

(2) Reference includes the Bus connection cable + the power supply cable.

Power supply connection cables

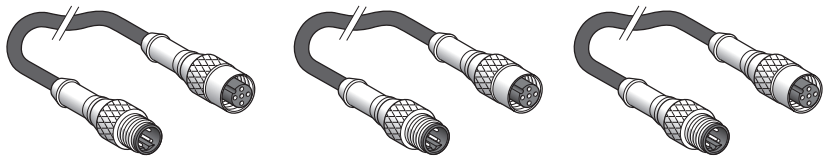
Type of bus			CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus
Type of female connector			Type 7/8, 5-pin, at either end		
References	Cable	L = 0.6 m	**FTXDP2206**		
		L = 1 m	**FTXDP2210**		
		L = 2 m	**FTXDP2220**		
		L = 5 m	**FTXDP2250**		
Type of female connector			Type 7/8, 5-pin, at one end (other end free)		
Catalogue numbers	Cable	L = 1.5 m	**FTXDP2115**		
		L = 3 m	**FTXDP2130**		
		L = 5 m	**FTXDP2150**		

Accessories

Type of bus		CANopen machine bus	DeviceNet fieldbus	ProfiBus fieldbus	InterBus fieldbus
Catalogue numbers	Configuration CD-ROM	**FTXES00**			
	Diagnostics M12 adaptor	**FTXDG12**			
	Power supply T-connector	**FTXCNCT1**			–
	Line terminator	**FTXCNTL12**		**FTXDPTL12**	–

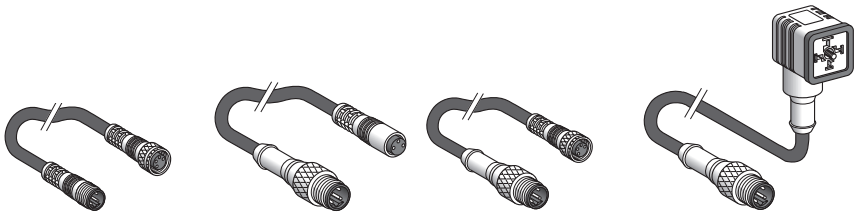
Accessories for sensors/actuators

M12 / M12 jumper cables



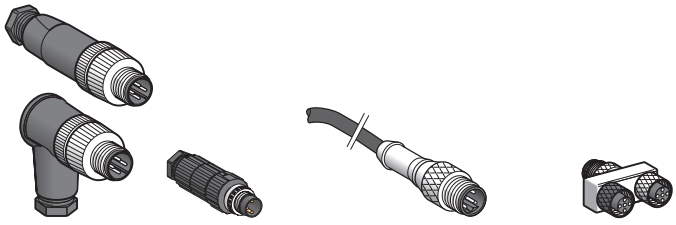
Type			Male / Female jumper cables		
Type of male connector, interface side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Type of female connector, sensor side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Cable			PUR, black	PUR, black	PUR, black
Catalogue numbers	Cable	L = 1 m	**XZCR1511040A1**	**XZCR1511041C1**	**XZCR1511064D1**
		L = 2 m	**XZCR1511040A2**	**XZCR1511041C2**	**XZCR1511064D2**

M8/M8, M8/M12 and M12/DIN jumper cables



Type			Male / Female jumper cables			
Type of male connector, interface side			M8, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread
Type of female connector, sensor side			M8, 3-pin straight, screw thread	M8, 3-pin straight, clip together	M8, 3-pin straight, screw thread	DIN 43650A elbowed, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black
Catalogue numbers	Cable	L = 1 m	**XZCR2705037R1**	**XZCR1501040G1**	**XZCR1509040H1**	**XZCR1523062K1**
		L = 2 m	**XZCR2705037R2**	**XZCR1501040G2**	**XZCR1509040H2**	**XZCR1523062K2**

Pre-wired connectors and splitter box



Type			Connectors		Pre-wired connectors	Splitter box "Y"	
Type of male connector, interface side			M12, 4-pin	M8, 3-pin	M12, 5-pin, straight, screw thread	1 x M12	1 x M12
Type of female connector, sensor side			–	–	–	2 x M12	2 x M8
Cable			–	–	PUR, black	–	
Catalogue numbers	Straight connector, screw thread		**XZCC12MDM40B**	**XZCC8MDM30V**	**–**	**FTXCY1212**	**FTXCY1208**
	Elbowed connector, screw thread		**XZCC12MCM40B**	**–**	**–**	**–**	**–**
	Cable	L = 0.5 m	**–**	**–**	**XZCP1564L05**	**–**	**–**
		L = 2 m	**–**	**–**	**XZCP1564L2**	**–**	**–**

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AS-Interface cabling system

The cabling system that meets your needs for industrial automation systems

AS-Interface

(Actuator Sensor Interface)

With the *«Smart Cable»* opt for:

Simplicity

A quick and expandable cabling system:

> Only 1 cable for connecting all the components of an automation system
> Management of communications integrated in the products

Maximum security

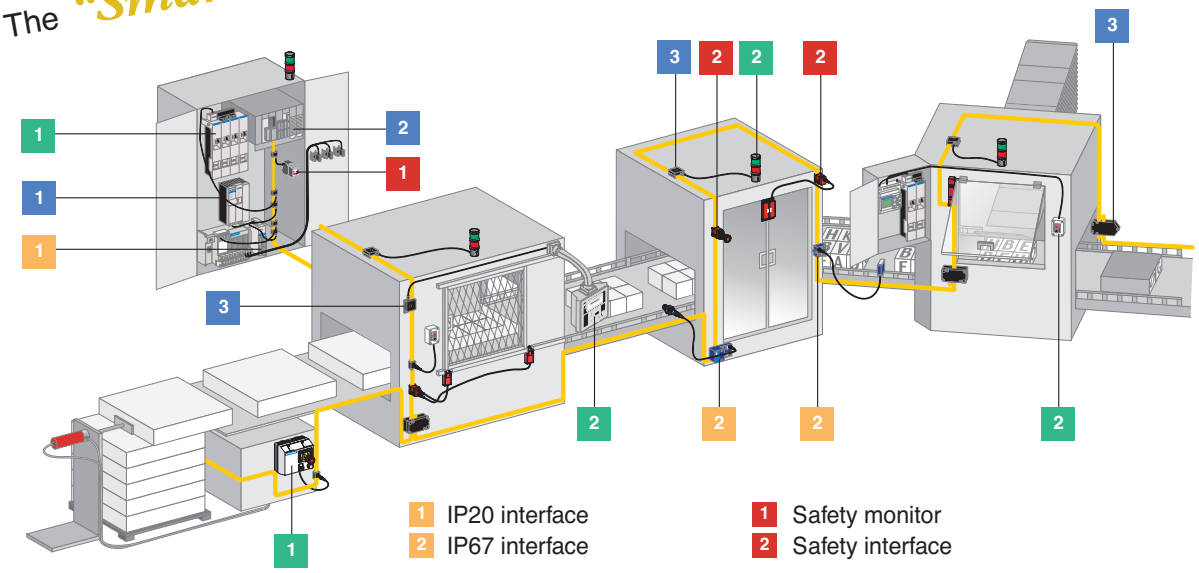
AS-Interface significantly improves the reliability, availability and safety of your machine:

> Cabling errors are eliminated
> Risk of electrical connection failure greatly reduced
> High immunity to electromagnetic interference (EMC)
> The machine's safety function is fully integrated with AS-Interface Safety at Work.

Up to 40% savings in costs

> Savings in time for design, installation, setting-up and commissioning
> Savings in space required in enclosures due to smaller products and elimination of intermediate boxes
> Control cabling eliminated and reduction in cable ducting

The *"Smart Cable"*



1 IP20 interface
2 IP67 interface

1 Dedicated control components
2 Dedicated dialogue components

1 Safety monitor
2 Safety interface

1 Power supply units and earth fault detection
2 AS-Interface master
3

Other versions: **please consult your Schneider Electric agency.**

The essential guide

A simplified selection guide enabling you to quickly select all the necessary products and accessories to build your installation.

Contents

Advantys AS-interfaces for generic products ..... 48 to 49

- IP20 interfaces

- IP67 interfaces

These IP20 or IP67 interfaces allow any standard automation component to be connected to the AS-Interface cable.

Dedicated components ..... 50 to 51

- For control

- For dialogue

These handle automation functions and can be connected directly to the AS-Interface cable. An integrated circuit (ASIC) built into the products manages all interfacing functions and communication.

Safety solutions

(see Safety Solutions The Essential Guide T9007CT0403EP)

- Safety monitors

- Safety interfaces

The incorporation of safety functions in the AS-Interface system is achieved by adding a safety monitor and safety interfaces, connected together with other standard AS-Interface components on the same yellow cable.

Installation system ..... 52 to 54

- Master modules, power supply units

- Cables, repeaters

- Accessories

Sensors and actuators are connected to the processing unit by the AS-Interface system. This system comprises a cable, accessories, a master module and a power supply unit.

Tools 55

- Adjustment and addressing terminals

The terminals enable the assigning of an address to each interface and component in the system and diagnostics of the installation.

Other versions: **please consult your Schneider Electric agency.**

Advantys interfaces for generic products

IP20 for mounting in enclosure

Modular interface, width 25 mm V2.1 with standard addressing	Analogue		Digital		
Number of inputs	2 (0…10V)	2 (0/4…20mA)	4	4	4 isolated
Number of outputs	–	–	4 relay, 2A	4 solid state, 0.5A	4 solid state, 0.5A
Type of addressing	Standard				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.7.3.F.D	S.7.3.F.D	S.7.0.F.E	S.7.0.F.E	S.7.0.F.E
Maximum consumption from AS-Interface (excluding sensor supply)	60 mA	60 mA	110 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
Catalogue numbers	**ASI20MA2VU**	**ASI20MA2VI**	**ASI20MT4I4OR**	**ASI20MT4I4OS**	**ASI20MT4I4OSA**
Accessory (1) **for connection to flat cables**	**XZCG0122**	**XZCG0122**	**XZCG0122**	**ASIDCPFIL20**	**ASIDCPFIL20**

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

(2) Inputs, outputs and sensor supply (200 mA max.).

Modular interface, width 25 mm V2.1 with extended (A/B) addressing	Digital				
Number of inputs	4	2	4	4	4 isolated
Number of outputs	–	1 triac, 2A	3 relay, 2A	3 solid state, 0.5A	3 solid state, 0.5A
Type of addressing	Extended (A/B)				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.) (3)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.0.A.7.0	S.3.A.7.0	S.7.A.7.0	S.7.A.7.0	S.7.A.7.0
Maximum consumption from AS-Interface (excluding sensor supply)	50 mA	40 mA	90 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
Catalogue numbers	**ASI20MT4IE**	**ASI20MT2I1OTE**	**ASI20MT4I3ORE**	**ASI20MT4I3OSE**	**ASI20MT4I3OSAE**
Accessory (1) **for connection to flat cables**	**XZCG0122**	**XZCG0122**	**XZCG0122**	**ASIDCPFIL20**	**ASIDCPFIL20**

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

(2) Inputs, outputs and sensor supply (200 mA max.).

(3) Except ASI20MT4I3ORE (170 mA max.).

IP67 for mounting on machine

Interface V2.1 with extended (A/B) addressing			Digital					
Number of inputs			4	2	–	4	4	4
Input cabling			Standard (1 x M12 input)				"Y" (2 x M12 inputs)	
Number of outputs			–	2 solid-state, 2A	3 solid-state, 2A	3 solid-state, 2A	–	3 solid-state, 2A
Type of addressing			Extended (A/B)					
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22●: 100 mA)					
Supply by 24 VDC external source (black AUX cable)			–	Outputs	–	Outputs	–	Outputs
AS-Interface profile			S.0.A.7.0	S.B.A.7.0	S.8.A.7.0	S.7.A.7.0	S.0.A.7.2	S.7.A.7.E
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	18 mA	48 mA	45 mA	48 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm	45x42x80 mm	60x30.5x151 mm
Connection	**IDC**	**Interface**	**ASI67FFP40E**	**ASI67FFP22E**	**ASI67FFP03E**	**ASI67FFP43E**	**ASI67FFP40EY**	**ASI67FFP43EY**
		Standard connection base	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB03**	**ASI67FFB01** (1)	**ASI67FFB03**
	M12 connector	**Interface + Connection base**	**ASI67FMP40E**	**ASI67FMP22E**	**ASI67FMP03E**	**ASI67FMP43E**	**ASI67FMP40EY**	**ASI67FMP43EY**

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.

Interface V2.1 with standard addressing			Digital				
Number of inputs			4	2	–	4	4
Input cabling			Standard (1 x M12 input)				"Y" (2 x M12 inputs)
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard				
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22●: 100 mA)				
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.E	S.3.0.F.E	S.8.0.F.E	S.7.0.F.E	S.7.1.F.E
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA	49 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm	60x30.5x151 mm
Connection	**IDC**	**Interface**	**ASI67FFP40D**	**ASI67FFP22D**	**ASI67FFP04D**	**ASI67FFP44D**	**ASI67FFP44DY**
		Standard connection base	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB03**	**ASI67FFB03**
	M12 connector	**Interface + Connection base**	**ASI67FMP40D**	**ASI67FMP22D**	**ASI67FMP04D**	**ASI67FMP44D**	**ASI67FMP44DY**

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02.**

Interface V2.1 (V1 compatible) with standard addressing			Digital			
Number of inputs			4	2	–	4
Input cabling			Standard (1 x M12 input)			
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard			
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22●: 100 mA)			
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.F	S.3.0.F.F	S.8.0.F.F	S.7.0.F.F
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm
Connection	**IDC**	**Interface**	**ASI67FFP40A**	**ASI67FFP22A**	**ASI67FFP04A**	**ASI67FFP44A**
		Standard connection base	**ASI67FFB01**	**ASI67FFB01**	**ASI67FFB01**	**ASI67FFB01**

Other versions: **please consult your Schneider Electric agency.**

TeSys U Control Starter Power base for D.O.L. Starter				■ Non reversing		■ Reversing	
Connection by screw clamp				Catalogue number	Current rating	Catalogue number	Current rating
Operational voltage	200/208V	230/240 V	480 V				
Horsepower ratings (CSA/UL ratings)	3	3	7.5	**LUB12**	**12 A**	**LU2B12••**	**12 A**
	10	10	20	**LUB32**	**32 A**	**LU2B32••**	**32 A**

TeSys U Control units ■ advanced		Class 10		Class 20
Setting range	Clip-in mounting on power base	Catalogue Number (1)		
For motor type		■ three-phase	■ single-phase	■ three-phase
0.15–0.6	12 and 32	**LUCBX6••**	**LUCCX6••**	**LUCDX6••**
0.35–1.4	12 and 32	**LUCB1X••**	**LUCC1X••**	**LUCD1X••**
1.25–5	12 and 32	**LUCB05••**	**LUCC05••**	**LUCD05••**
3–12	12 and 32	**LUCB12••**	**LUCC12••**	**LUCD12••**
4.5–18	32	**LUCB18••**	**LUCC18••**	**LUCD18••**
8–32	32	**LUCB32••**	**LUCC32••**	**LUCD32••**

(1) Basic catalogue number to be completed by adding the voltage code from the table below.

Standard control circuit voltages				
Volts		24	48–72	110–240
dc		**BL**	**-**	**-**
ac		**B**	**-**	**-**
dc or ac		**-**	**ES** (1)	**FU** (2)

(1) dc: 48–72 V, ac: 48 V.

(2) dc: 110–220 V, ac: 110–240 V.

Communication interface for	TeSys Model U V2.1
Type of addressing	Standard
Supply by AS-Interface	–
Supply by external source (AUX)	Coil
AS-Interface profile	S.7.D.F.0
Maximum consumption from AS-Interface	30 mA280 mA
Dimensions (WxDxH)	depending on LU model
Catalogue numbers	**ASILUFC5**
Recommended accessory for connection to AS-Interface cable (4)	**ASIDCPFIL20**

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 53).

For TeSysU information, please refer to catalogue #T8500CT0602EP R0.

Other versions: **please consult your Schneider Electric agency.**

For dialogue

Keypads and Control stations V3	Control stations with 2 pushbuttons	
	Black and white	**Illuminated**
Type of addressing	Standard	Standard
Supply by AS-Interface	Buttons	Buttons and pilot lights
Supply by external source (AUX)	–	–
AS-Interface profile	B.A.E.	B.A.E.
Consumption from AS-Interface	< 40 mA	< 80 mA
Certification	AS Interface No. 72301 only	
Dimensions (WxDxH)	68x62x128 mm	68x68x128 mm
Catalogue numbers	**XALS2001E**	**XALS2003E**
Recommended accessory for connection to AS-Interface cable (4)	**ASIDCPM12D03**	**ASIDCPM12D03**

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 8/9).

Interface V3	For 2 control units and 2 pilot lights
Number of pages available	–
Number of inputs	2, 24V, 5mA
Number of outputs	2, 24V, 20mA max.
Type of addressing	Standard
Supply by AS-Interface	Inputs and pilot lights
AS-Interface profile	B.A.E.
Maximum consumption from AS-Interface	80 mA
Certification	AS Interface No. 72301, UL
Dimensions (WxDxH)	45x15x32 mm
Catalogue numbers	**XALSZ1E**

Direct screw terminal connection to AS-Interface or by accessory for flat cable: **XZCG0122**, (other accessories, see page 53).

Indicator banks, Ø 70 mm (7) V3	Base units and cover		Illuminated units		Audible unit
			"Flash" discharge tube	**Steady light**	
Type of addressing	Standard	Standard	–	–	–
Connection to AS-Interface cable and AUX (male M12 connector)	side entry	bottom entry w/ 1m flying lead	–	–	–
Supply by AS-Interface	(5)	(5)	–	–	–
Supply by external source (AUX)	(5)	(5)	–	–	–
AS-Interface profile	S.7.F	S.7.F	–	–	–
Consumption from AS-Interface, supply by AS-Interface / external	250 / 30 mA	250 / 30 mA	–	–	–
Light source	–	–	5 Joule	LED	–
Buzzer	–	–	–	–	70...80 db at 1m
Certification	AS Interface No. 72201 only				
Catalogue numbers	**XVBC21A**	**XVBC21B**	**XVBC6B●** (6)	**XVBC2B●** (6)	**XVBC9B**
Recommended accessory for connection to AS-Interface cable & AUX	**ASIDCPM12D03**	**XZCG0120**	–	–	–

(5) Illuminated units supplied by AS-Interface or externally, configurable by shunt.

(6) To complete the reference, replace the ● by the following number designating the colour: green: **3**, red: **4**, orange: **5**, blue: **6**, clear: **7**, yellow: **8**.

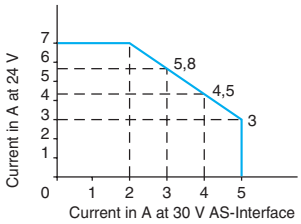
(7) To obtain a complete indicator bank, order a base unit + the illuminated or audible units (5 units maximum).

Master modules

Platform	Twido	Premium	Micro	Quantum
Maximum number of master modules per PLC	2	2, 4 or 8 depending on processor	1	8 (1)
Compatibility with AS-Interface interfaces and components	V1 / V2.1	V1 / V2.1	V1	V1
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block	by terminal block
Maximum number of addresses	62	62	31	31
Type of addressing	Standard/Extended (A/B)	Standard/Extended (A/B)	Standard	Standard
Compatibility with analogue interfaces	Yes	Yes	–	–
Compatibility with safety interfaces	Yes	Yes	Yes	Yes
AS-Interface profile	M.3	M.2.E	M.2	M.2
References	**TWDNOI10M3**	**TSXSAY1000**	**TSXSAZ10**	**140EIA92100**

(1) 4 per local rack, 4 per remote I/O, 2 per distributed I/O.

Power supply units



Type of supply		AS-Interface		AS-Interface + Auxiliary	
Input voltage		100…240 VAC	100…240 VAC	100…240 VAC	100…120 & 200…240 VAC
AS-Interface output voltage		30 VDC	30 VDC	30 VDC	30 VDC
Auxiliary output voltage		–	–	24 VDC	24 VDC
AS-Interface nominal power		73 W	146 W	73 W	61-153 W
Auxiliary nominal power		–	–	72 W	72-168 W
AS-Interface nominal current		2.4 A	4.8 A	2.4 A	5 A (2)
AUX nominal current		–	–	3 A	7 A (2)
Direct connection to AS-Interface cable		by terminal block	by terminal block	by terminal block	by terminal block
Dimensions (WxDxH)		54x120x120 mm	81x120x120 mm	81x120x120 mm	225x135x151.5 mm
References	**without earth fault detection**	**ASIABLB3002**	**ASIABLB3004**	**ASIABLM3024**	**TSXSUPA05**
	with earth fault detection	**ASIABLD3002**	**ASIABLD3004**	**–**	**–**

(2) Power supply unit with constant maximum output, see curve above.

Other versions: **please consult your Schneider Electric agency.**

Cables and repeater

Type			Yellow AS-Interface cable	Black Auxiliary cable	Repeater (4)
Wire size (gauge)			2 x 1.5 mm² (#16 AWG)	2 x 1.5 mm² (#16 AWG)	–
References	**Cable**	**L = 20 m**	**XZCB10201** (3)	**XZCB10202** (3)	**–**
		L = 50 m	**XZCB10501** (3)	**XZCB10502** (3)	**–**
		L = 100 m	**XZCB11001** (3)	**XZCB11002** (3)	**–**
Reference of repeater			–	–	**ASIRPT01**

(3) Standard cable. For TPE cable (oil and vapour resistant) add the letter **H** to the end of the reference, example: XZCB10201 becomes **XZCB10201H**.

(4) Enables an AS-Interface network to be extended by 100 m. Direct connection to the AS-Interface yellow cable by IDC.

Tap-offs for flat cable

(For connecting interfaces and components)

Connection to cable by IDC			AS-Interface IP54		AS-Interface + Auxiliary IP67	
Cable extremity			M12 connector (5)	Bared wires (6)	M12 connector (5)	Bared wires (7)
References	**Cable**	**L = 0.3 m**	–	–	**ASIDCPM12D03**	–
		L = 0.6 m	**XZCG01205D**	–	–	–
		L = 1 m	**XZCG0121D**	–	–	–
		L = 2 m	–	**XZCG0122**	**ASIDCPM12D20**	**ASIDCPFIL20**
		L = 5 m	–	–	–	**ASIDCPFIL50**

(5) Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.

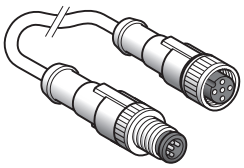
(6) 2 x 0.34 mm² (#22 AWG) for product with terminal block.

(7) 4 x 0.34 mm² (#22 AWG) for product with terminal block.

Connection to cable by IDC		AS-Interface	2 AS-Interface or 2 Auxiliary
Tap-off		1 x M12 connector 5-pin female, screw threaded	1 flat cable
References	**Tap-off**	**XZCG0120**	–
	IDC connection base	–	**XZSDE1113**
	Cover	–	**XZSDP** (8)

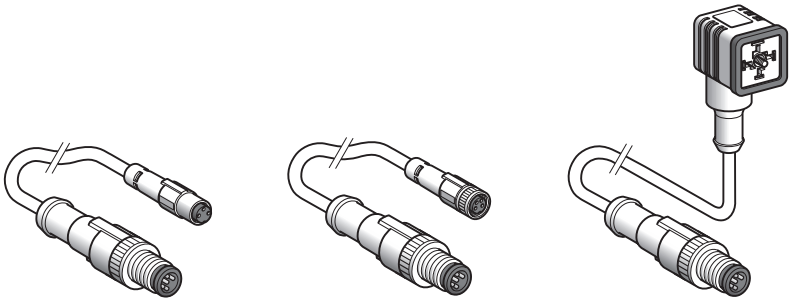
(8) For the complete product, include the connection base.

Jumper cables M12 / M12



Type			Male / Female jumper cable		
Male connector type, interface side			M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Female connector type, sensor side			M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Cable			PUR, black	PUR, black	PUR, black
Catalogue numbers	**Cable**	**L = 1 m**	**XZCR1511040A1**	**XZCR1511041C1**	**XZCR1511064D1**
		L = 2 m	**XZCR1511040A2**	**XZCR1511041C2**	**XZCR1511064D2**

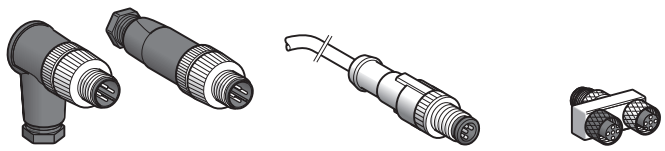
Jumper cables M12 / M8 or DIN



Type			Male / Female jumper cable		
Male connector type, interface side			M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.
Female connector type, sensor side			M8, 3-pin, straight (1)	M8, 3-pin, straight, screw thread.	DIN 43650A, elbowed, screw thrd.
Cable			PUR, black	PUR, black	PUR, black
Catalogue numbers	**Cable**	**L = 1 m**	**XZCR1501040G1**	**XZCR1509040H1**	**XZCR1523062K1**
		L = 2 m	**XZCR1501040G2**	**XZCR1509040H2**	**XZCR1523062K2**

(1) Clip together connector.

Connectors, splitter box



Type		Connectors	Pre-wired connectors	Splitter box
Male connector type, interface side		M12, 4-pin	M12, 5-pin, straight, screw thread.	1 x M12, 5-pin, straight, screw thrd.
Female connector type, sensor side		–	–	2 x M12, 5-pin, straight, screw thrd.
Cable		–	PUR, black	–
Catalogue numbers	**Straight connector, screw thread.**	**XZCC12MDM40B**	**–**	**FTXCY1212**
	Elbowed connector, screw thread.	**XZCC12MCM40B**	**–**	**–**
	Cable L = 0.5 m	**–**	**XZCP1564L05**	**–**
	Cable L = 2 m	**–**	**XZCP1564L2**	**–**

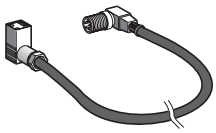
Other versions: **please consult your Schneider Electric agency.**

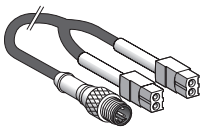
Tools

Adjustment and addressing terminals

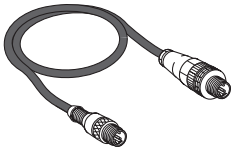
Display	25 mm LCD screen	13 mm LCD screen
Degree of protection	IP40	IP20
AS-Interface voltage / current measurement	yes	no
Addresses stored in memory	yes	no
Access to functions	direct by selector switch	by pull-down menu
Compatibility	V1/V2	V1/V2
Operating time	2500 addressing operations	250 read/write operations
Catalogue numbers	**ASITERV2**	**XZMC11**
Reference with set of 7 leads + protective cover for terminal	**ASITERV2SET**	**–**

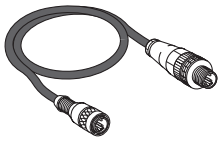
Addressing accessories for terminals ASITERV2 and XZMC11





Product connection	Infrared addressing	Socket
For products	ASISSL…	ABE8… / APP1 / ASILUF… / XBZS43 / ASI20M
Catalogue numbers	**ASITERIR1**	**XZMG12**





Product connection	M12, male	M12, female	Jack plug
For products	(2)	ASI67FMP XVB… / XAL… / LF…	ASI20M… / ASI67FFP…
Catalogue numbers	**ASITERACC1M**	**ASITERACC1F**	**ASITERACC**

(2) Possibility to connect AS-Interface cable using T connector XZCG0120.

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